

OBITUARY NOTICE

JOHN THOMSON MacCURDY, 1886-1947

'When the War was over psychology had, in a way, to be begun afresh at Cambridge.'¹ Both Dr Myers and Mr Bartlett (now Sir Frederic Bartlett) had been away on war work and the Cambridge Psychological Laboratory was practically without staff. Then a Readership was created for Dr Myers and both he and Dr Rivers were anxious to establish a University Lectureship in Psychopathology. But it was not until 1923, after the death of Rivers and Myers's departure to London, that their hopes were fulfilled. To this new lectureship was appointed one who was destined to play no small part in the growth of psychological studies at Cambridge and to become a well-known figure in the University. This was the late Dr J. T. MacCurdy.

John Thomson MacCurdy, son of the late Prof. J. F. MacCurdy, of Toronto, was born in 1886. He studied biology at the University of Toronto, graduating as Bachelor of Arts in 1906. He then pursued his medical studies at Johns Hopkins University, gaining his M.D. in 1911. His first publication, which appeared as early as 1909, was a paper 'On the Influence of Thyroidectomy on Alimentary Glycosuria' in the *Journal of Experimental Medicine*. Shortly after qualifying, MacCurdy was elected to a Fellowship in Pathology at Johns Hopkins and proceeded at once to Germany to pursue research in neuropathology. Here he worked for a time in Alzheimer's laboratory at Munich. There can be no doubt that this period in Germany exercised an important influence on MacCurdy's development and turned his interests finally towards psychiatry. In later years, he often spoke of his discussions with prominent German psychiatrists of the time and was wont to mention one with Jung which had lasted for thirteen hours without intermission! At this time, too, he acquired a lasting interest in German character and history which was to prove of great value in his work for the Foreign Office many years later.

On his return to America in 1913, MacCurdy was appointed Lecturer in Medical Psychology at Cornell and Assistant to Dr August Hoch at the Psychiatric Institute of New York. These posts he held for the next nine years. He was a founder of the American Psychopathological Association, of which he became President in 1922. During these years, he published a number of papers on psycho-analysis and kindred subjects. Although these papers are now mainly of historical interest, yet they are notable for the vigour and freshness of their approach. Unlike so many, MacCurdy never allowed his enthusiasm for Freud's methods to outweigh his critical judgement. As he wrote in a letter to Morton Prince: 'I think that psycho-analysis is as near to being a royal road to truth as any method we have in psychopathology. But a fool who cannot distinguish between the road and its terminus is not a useful guide even though he be on the right road.'²

In 1917 America entered the war. MacCurdy, with the rank of Captain, was despatched on a special mission to England to inquire into the problems which were about to confront psychiatrists in the American Expeditionary Forces. He was inevitably brought into close touch with neurology and psychiatry in the British Army and learnt much of the

¹ F. C. Bartlett, 'Cambridge, England, 1887-1937'. *Amer. J. Psychol.* L, 1937, p. 107.

² O. L. Zangwill, 'The Theory of Emotion: A Correspondence between J. T. MacCurdy and Morton Prince'. *Brit. J. Psychol.* xxxix, 1948, p. 7.

progress which had been made in the treatment of shell-shock and kindred conditions. His experience led to the publication, in 1918, of an admirable little book on *War Neuroses*, to which W. H. R. Rivers contributed an appreciative preface. This book did much to recommend its author to the notice of psychologists and medical men in Great Britain. It is notable even to-day for its well-studied clinical material and its sympathetic treatment of psychological issues.

On his demobilization in 1919, MacCurdy went at once to California where his former chief, Dr Hoch, was living in retirement. His aim was to discuss the work on manic-depressive psychoses upon which they had been engaged before the war and to decide on the manner of its publication. But Dr Hoch was a very sick man and he died suddenly in the autumn of 1919, leaving the major share of the work to MacCurdy. Hoch had, fortunately, made some progress with his portion of the work, which was largely concerned with stupor and involuntional melancholia. An important article on 'The Prognosis of Involuntional Melancholia', written by MacCurdy from Hoch's notes, appeared under the names of both authors in 1920. One year later, Hoch's *Benign Stupors* was published under MacCurdy's editorship. The greater part of the material, however, was later incorporated into MacCurdy's massive book on *The Psychology of Emotion*. In his preface to this book, MacCurdy pays warm tribute to all who shared in collecting the clinical material and singles out Dr G. W. Kirby, who succeeded Hoch as Director of the Manhattan State Hospital, for special mention. But the credit for working up the material as a systematic treatise is due to MacCurdy alone.

The scene of MacCurdy's activities now shifts to Cambridge, where he is to remain for the rest of his life. In view of his many contacts with British psychology during the war, it is not wholly a matter of surprise that he should have been invited to deliver a course of lectures in the University of Cambridge during the Long Vacation term of 1922. The importance of medical psychology was well to the fore at Cambridge—indeed a Diploma in Psychological Medicine had been established as early as 1912. In 1923, MacCurdy was appointed to the Lectureship in Psychopathology which the efforts of Rivers and Myers had made possible. Election to a Fellowship at Corpus Christi College followed in 1926 and, three years later, the University conferred upon him the degree of Doctor of Science. His habilitation in British academic life was complete.

In his twenty-five years at Cambridge, MacCurdy occupied a unique place in the life and work of the Cambridge Psychological Laboratory. He was not an experimentalist and his isolation from clinical material somewhat limited his scope as a research worker. But he wielded a remarkable influence as a colleague and as a teacher. His discussion classes were models of their kind: solid, yet informal; unconventional, yet never wild. Few of his students agreed with him—for long at least—but none failed to learn from him and to respect his intellectual power. To his friends and colleagues he would propound theories on almost any subject—ranging from physiology to economics—and defend them strongly; often, it seemed, less from real conviction than from the motive of thrashing the subject out and enjoying a good discussion. In these somewhat intangible ways, MacCurdy gave gladly. There could be no danger of stagnation or academic sterility in any department exposed to his stimulating influence.

MacCurdy produced four major works while at Cambridge, along with a number of books and papers of lesser importance. *Problems in Dynamic Psychology* (1923) remains as one of the best critical statements of the psycho-analytic doctrine by one with real

insight into the significance of Freud's work. Much more important, however, is his next book—*The Psychology of Emotion*—published two years later. This book not only offers a consistent psychological interpretation of manic-depressive insanity but presents an original theory of emotion. Central to the theory is the conception of unconscious mental activity. But MacCurdy's approach is both broader and less speculative than Freud's. He drew heavily on the biological conceptions of instinct as developed in British psychology and upon the work of such men as Rivers, Trotter and Prince. Emotion, he concluded, derives from the activity of conative processes at a subconscious level. Disorders of emotion are due to instinctive drives which are denied expression in action or conscious thought. Although much of MacCurdy's theory will require revision in the light of modern work, it remains as a solid contribution to the growth of psychological science.

After the publication of his book on *Emotion*, MacCurdy occupied himself with problems outside the sphere of clinical psychiatry. *Common Principles in Psychology and Physiology* (1928) is a bold attempt to draw together some basic concepts in modern physiology and to explore their relevance to problems of mind. This book has its moments of brilliance but despite its laudable intentions it remains a *synthèse manquée*. MacCurdy never gave up his attempt to effect a reconciliation between neurology and psychiatry and had indeed planned a sequel to the *Common Principles*. Much of this was written but MacCurdy never felt confident enough to publish it. In his later years, MacCurdy's attention turned itself increasingly towards the psychological problems of social life. He was an active member of an informal group of British psychologists responsible for the publication, in 1937, of *The Study of Society*. To this volume he contributed a characteristic chapter. During the war, he published his last book of real importance which he entitled *The Structure of Morale* (1943). Although adding little to psychology in its systematic aspects, this book is marked by a shrewdness and wisdom reminiscent at times of the great French rationalists of the eighteenth century. MacCurdy became extremely interested in political history and in the analogy between the methods of the historian and those of the psychiatrist. An unfinished manuscript testifies to the fertility of this idea. It is more than probable that the development of social psychology in this country will owe much to the stimulus of MacCurdy's approach.

MacCurdy's systematic position in psychology is not entirely easy to state. Until about 1920, his views diverged relatively little from the orthodox psycho-analytic position. Thereafter he became increasingly eclectic in his opinions and held scant brief for the more recent developments in the Freudian theory. Till the end of his life, however, MacCurdy clung with the utmost tenacity to his conviction that the concept of personality is central in all psychology. Personality he defined as an integration of drives and interests, built up on an unconscious foundation, and the source of the individual's adaptations to his environment. These adaptations can, he believed, be explained only in genetic and qualitative terms. Hence psychology is not primarily an experimental science. These views are not, of course, original or unusual. But as developed by MacCurdy, on the groundwork of a rich clinical experience and wide reading, they instilled into the student '...some measure of that sense of the fundamental realities of mental life without which the academic study of psychology is liable to verge on the trivial'.¹ This is perhaps the true measure of MacCurdy's contribution to psychology in Cambridge.

Beyond his academic circles MacCurdy's influence spread. Soon after he came to

¹ *The Times*, 18 July 1947.

England for good he was appointed consultant psychologist to the R.A.F., to advise on the many psychological problems that arose. He toured Irak and the Middle East to study flying conditions over the desert, and made a start on the scientific selection of flying personnel. During the second World War, in addition to his University duties, he worked in a special branch of the Foreign Office where his particular talents and knowledge were of considerable value and, after the armistice, he visited the fleet in the Eastern Mediterranean giving lectures to the ships' companies.

During the quarter of a century John MacCurdy lived in Cambridge he became a very well-known figure in the University, and his death was a shock to his many friends. For some years he had been far from well, but he bore his illness with characteristic fortitude and never uttered a word of complaint: no one, not even his most intimate friends, thought in 1947 the end was near.

He possessed an unusually striking personality. He explained his apparent attitude of superiority as the result of a violent reaction from a strong feeling of inferiority. He ascribed its change to an experience in early life when he rescued from drowning a person who had gone down in deep water. The rescue, he said, made him realize he could do something well—and he never suffered from lack of self confidence thereafter! Whatever the reason MacCurdy was always a factor to be considered. He was very emphatic and direct in his views on most subjects and delighted in the dialectical discussions that are such a marked feature of Cambridge life. He was perhaps at his best when the port was circulating after dinner round the table in the Common Room at Corpus, the College which became his home in England.

With characteristic enthusiasm he became more English than the native-born Englishman, showing decided aristocratic leanings—a democrat of the strongly conservative type. Sham and ostentation he abhorred and fools he did not suffer gladly, and, indeed, when he had to bear with them he was at no pains to conceal his sufferings.

His interests were wide and varied. He played many games with keenness rather than skill, particularly tennis, lawn tennis and golf, and he seldom failed to see an important University Rugger match. He combined a good working knowledge of many topics with a considerable acquaintance with many more—whaling and flying, politics and finance, music and wine. Whatever the subject he was interested and had some contribution to offer. His musical appreciation, particularly of German Lieder, was of the highest order and he delighted in a quiet evening of chamber music. His Egg Nog parties became one of the social events of the Christmas Vacation.

A man with an extremely wide and varied circle of acquaintances, MacCurdy chose his friends with care. To them he was staunch and generous, ready to partake of their joys and to lighten their sorrows. In times of stress he was a tower of strength and no demand was ever made in vain. His sympathies were quickly aroused, even by those he did not know well, and great is the number of those he helped unobtrusively and the kindnesses he showed in secret.

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THE PSYCHOLOGICAL TREATMENT OF OFFENDERS IN PRISON¹

By JOHN C. MACKWOOD

I. *Introduction* (p. 5). II. *Conditions of treatment*: (1) *Environmental conditions* (pp. 5-6); (2) *Selection of cases for treatment* (p. 6); (3) *Attitude of the offender* (pp. 6-7); (4) *The value of analytical treatment in prison* (pp. 7-9). III. *Types of offenders treated*: (1) *Ordinary delinquency* (pp. 9-10); (2) *Environmental delinquency* (pp. 10-11); (3) *Delinquency involving sexual ignorance* (p. 11); (4) *Psychoneurotic cases* (pp. 11-12); (5) *Psychopathic personality* (pp. 12-13). IV. *Psychopathological conceptions in the treatment of delinquency* (pp. 13-15). V. *Individual treatment* (pp. 15-16). VI. *Group treatment*: (1) *Social processes involved* (pp. 17-18); (2) *The function of the therapist* (pp. 18-20); (3) *The dynamics of group functioning* (p. 20). VII. *The attitude of the public* (pp. 20-22). *References* (p. 22).

I. INTRODUCTION

The material on which the following remarks are based is that of convicted offenders who have been treated at Wormwood Scrubs Prison, and who include those who come from any of the prisons in England and Wales. A brief review of the general field is necessary before going into details.

The psychological treatment of convicted offenders was begun in March 1934, when Hubert and East began their research at Wormwood Scrubs Prison. This was a combination of treatment and research. Their subsequent results were reported in a Home Office document under the title of 'The Psychological Treatment of Crime'. In 1939 the war put an end to active psychological treatment, and it was not until February 1943 that it was restarted. The material that is drawn on for this article thus covers a period of 6 years.

II. CONDITIONS OF TREATMENT

(1) *Environmental conditions*

There must be handicaps inevitably inherent in the build-up of any machinery that has been primarily designed for the safe custody of convicted offenders by the Holding Authority. The old prison buildings are recognized as being out of date. But the idea of any psychological treatment of offenders, by comparison with the importance of holding them safely, is very recent. And though an increasing understanding of desirable and undesirable factors has steadily grown, the necessary modifications have been delayed by world wars and economic crises that have had similar parallels in other parts of our social framework, and the sharp increase in the prison population has added its quota to these difficulties. One of the biggest drawbacks is the lack of space, within the prison walls but outside the cells, for the outlet of healthy energy in constructive and satisfying ways. And it is obvious that this lack must operate unfavourably on those prisoners who are isolated personalities, and in whom the asocial state is often the main underlying or precipitating factor that leads them to prison. Yet I have seen many beneficial changes take place inside

¹ Based on a paper, in a series arranged by the Departments of Extra-Mural Studies and Social Sciences of the University of Liverpool on 'Criminal Justice and Penal Reform', read on 11 February 1948 at the Royal Institution, Liverpool.

the walls of Wormwood Scrubs Prison during this 6 years' period under review. And it is as well to bear in mind that the shortage of trained personnel is a bigger problem than material provisions.

From the treatment viewpoint perhaps the greatest improvement has been the building of a special ward for treated offenders. In an attempt to avoid complexes that might arise from the use of such terms as 'psychological' or 'psychiatric' it was called the 'New Ward', and the cases under treatment are termed 'exploratory'. Here the offenders sleep, eat, and spend their leisure time together; and some of them work in the same 'shops'. They are thus a form of closed group, though their personnel changes as discharge from Wormwood Scrubs, or to another type of prison, occurs. In trying to avoid one difficulty we encountered others. The xenophobic complex of the 'new' thing opened up much suspicion at first but the ward weathered its early troubles successfully and has proved itself an asset of the greatest value. Its value may be gauged by the way that 'visitors' from the main Halls, waiting their turn for treatment, become infected by the generally higher morale of the ward and ask if it will be possible for them to be admitted. In the main Halls the gossip is that 'only the worst and maddest' cases are put into it. As a footnote: everyone, staff and prisoners, now calls the ward the 'psychological' ward.

(2) Selection of cases for treatment

Many cases come through a direction or recommendation of the Courts; all of these are seen for assessment that will, if favourable, lead to treatment. But a considerable number of these get a precedence in being assessed that they might not have had if the criterion had been medical. In general it seemed at the outset that if one wished to spend a maximum time on therapy it would not be possible to do the sieving as well, and therefore the cases on the waiting list are referred by the medical officers of the various prisons, and a selection is made from these. The selection is thus not an optimum one based on a psychotherapeutic selection in the first place, though the Prison M.O. is a pretty shrewd judge of many psychogenic factors. Looking back over the 6 years, I was surprised to find the number of hours (the average time spent on each interview is an hour)—over 100 hours in the first 3 years—that was spent in exploratory assessment of cases that were not further proceeded with. But much time spent in assessment only is unavoidable where there is more material to select from than can be dealt with, and one is concerned with using the time available for the most hopeful cases. It would, however, be an error to think that these hours have been wasted and that something had not been gained by an offender which might prove fruitful in the future.

(3) Attitude of the offender

There is no doubt that months of waiting when a man is 'ripe' for treatment may mean that he becomes stale or apathetic in his attitude to psychotherapy, especially if there is only a short time before discharge when his turn arrives. The man who has been 'in' before often says that after the trial with its hopes and fears, when the worst has happened and he finds himself back in prison, he settles down into a resigned or even nearly contented state under conditions he has experienced before and which, if he accepts them, remove the responsibility for himself. He ticks over like an engine idling till his time for discharge draws near. And young prisoners (Y.P.'s), Borstal Detentions, and 'Star' offenders are

often difficult to hold under treatment in ordinary prison conditions, for they find the deprivation of privileges and the comparative freedom that they have in their institutions and special prisons too severe a strain to endure, and this acts as a great resistance from the outset. One notices a constant phenomenon in almost all prisoners who are within a few weeks of their discharge, even among many who have been co-operating well under treatment; this is that their introspective attention flags as they begin to live 'as if' they were already outside the prison walls. The exceptions are those psychogenic cases who have been caught into the depth of their underlying motivations and who have not had sufficient time to work through all their material with insight. These are commonly afraid of being discharged and it is by no means uncommon for them to ask if it is possible to volunteer to remain in prison until they have finished their analysis and feel secure.

(4) *The value of analytical treatment in prison*

(a) *Time required.* At the outset in 1943 the main approach was analytical and comparable to that in civilian patients. The point cropped up where a satisfactory analysis had taken place, but the man had still a long time to serve, that he might tend to slip back. And the precedent was established of earlier discharge in exceptional cases, after testing out at some other type of prison, on account of this treatment. Thus an extension was made of the existing early discharge on other grounds. But this analytical approach took a long time and only dealt with a small number of cases. The unbiological setting of prison conditions operates unfavourably for satisfactory testing out of gains, though it must be stated that these same conditions, with the impossibility of retreating still further from facing up to reality, often operate favourably in the analytical approach. This is demonstrated by the increased tempo with which cases respond compared with similar cases that one was treating under civilian conditions; and also by the fact that some, who had declined or broken off treatment outside prison, faced up to it inside.

(b) *Generalizing from the analytical situation.* Clearly analytical treatment is of the utmost value for research into delinquency and crime. But there are objections to this as the main treatment approach. First, it is too uneconomical in regard to dealing with all the material that is waiting. Secondly, an introverting process is unsuitable for the lesser intelligences and for literal, pragmatic types who find it difficult to retain any new orientation and to carry over what they have gained in the way of significance in one set of analytical conditions, and apply this under different circumstances. This difficulty is stressed by the prison setting which does not provide for opportunity as does a civilian setting. Thirdly, an identical treatment approach to neurosis and severe delinquency, or crime, is full of pitfalls and raises the problem of ethic.

(c) *The problem of ethic.* Though this will make some psychotherapists wince, it has to be faced in dealing with crime. Whatever the attitude to the concept of ethic in ordinary neurosis and its psychopathology, it is impossible to begin to think of the treatment of crime without the automatic inclusion of the *idea* of ethic, or some standard of behaviour, since it is in the final test of man's behaviour the lack of some inner restrictive power in the ego that brings individuals to the restriction of their liberty of action behind prison walls. Even psychoanalytical theory cannot have any real quarrel with ethic, as such, for the path of sublimation is strewn with leaves that are indistinguishable from those that the masses recognize as social and ethical standards, judged from the viewpoint of behaviour. Terminology may be different, and the individual ethic of the analyst must not be inflicted

on his patient—but the patient has to find ethic, or some equivalent morale, that acts in the same way towards engendering social behaviour. I do not need to stress the dangers of treating a serious type of crime with the same attitude that we extend to our civilian neurotics, for the risks of failure might plunge both analyst and analysand into very deep waters if the case were treated in the civil community. Severe delinquency in anyone physically capable of doing serious harm demands that we have sufficient control of the environment, and this control is very necessary during the releasing periods of treatment.

To postulate that serious delinquency and crime can be safely treated analytically by an introverting process directed to uncovering instinctual energy (libido) without some kind of synthesis going on, maybe as interpretations accepted through a transference phenomenon, and bringing about social changes in the delinquent pattern, is more a comforting thought than an observable fact. A series of narcotherapy sessions would demonstrate how safe the analyst is—and by inference the public would be—when this raw energy is released into the agent without a very considerable modification of these forces. And whether analytical measures take a very long time to render these forces safe or not, the fact remains that they may easily detonate under ordinary circumstances and will not always comply with any set formulae from outside. Human libido may arrive into the world with fireworks but does not, Minerva-like, find itself armed at all points to meet life under any conditions. Any long analytical process involves tremendous re-education. We must face facts. It is not helpful to psychiatry at the present stage, and to some offenders, to postulate that all crime and delinquency is explicable under some single body of doctrine or psychopathological theory, but to make the proviso that this theory cannot be fairly tested under prison conditions. There is, of course, very considerable truth in this attitude, but the results of treatment under civilian conditions fall too far short of a satisfactory yardstick of comparison. The truth is that the control of the environment desired for treatment in civil life, in the way of restriction of liberty, approximates fairly closely to what is needed in the way of elasticity in prison conditions; and these are altering rapidly.

When anyone, like Freud or Marx, sets out to attack the *false* values in any society he is attacking the Freudian superego. And he will have a large following, because he is pursuing a sound principle that all liberal-minded and serious people hold dear. He is speaking as a self-constituted ego, and he must be very careful to criticize his own thoughts lest he himself comes under the same censure for being influenced by hidden emotional factors that render his criticism not logically valid. One immediately perceives the disparity between Freud and Marx in this respect. But the criticism is directed against false cultural values, and not against factual truths of the nature of physical facts. And cultural values vary, and are apt to alter suddenly at times. For instance, a man who was earning his living honestly on a commission basis before the outbreak of the last war found himself suddenly out of business after war was declared. He had to change his method of earning his living, or deal in a Black Market that would involve him in indictable offences.

Thus there may be a further danger, even in sound criticism, lest in attacking the false values we tend to undermine the whole structure for those that are not flexible on account of their emotional and constitutional handicaps. And we must include much delinquency in this category. The very fact that an individual is primarily treated by a scientifically designed analytical process which encourages him to come out with everything—including

his antisocial urges and feelings—as clues to any underlying causative factors and without any ethical attitude being brought to bear during this phase, has to be counterbalanced later on during the ‘working through’ and interpretations given on the material that has been uncovered. We do, in fact, find just this risk not infrequently during treatment. For when some inhibited normal energy or drive is released at an early level of development, where frustration and repression took place, the individual urgently wants (or proceeds in some cases of serious delinquency) to do acts that would now, at his present legal age, be held to be indictable. One could quote cases where what amounts to real psychotherapeutic progress has involved behaviour that is more serious than that for which the individuals were originally apprehended. It is not so much that this kind of thing would not have happened, had they been treated apart from prison conditions, as that it seems at times as if it needs to happen and needs to happen under more elastic conditions that would not involve fresh charges.

Nor does it really help matters for a psychiatrist to say that he does not regard as real delinquency some of those acts (for instance many sexual misdemeanours and much stealing) that are indictable in law, merely because they are substitutive for desirable urges. As good citizens we have to subscribe to the law. The answer to this problem seems to lie in some special type of institution under the Prison Commission that can allow an elasticity during treatment that is impossible where many types of offenders are housed under the same conditions. We shall then be faced with our own theories, whatever these may be, and be put to the test as to their validity for cure. But has it occurred to all of us that such a special Centre will involve something in the nature of an indeterminate sentence, and that this sentence will more often be of much longer duration than would be given in response to a simple plea of ‘Guilty’? Many offenders who would be likely to respond excellently to treatment would prefer to plead ‘guilty’ in the hope of the shorter sentence.

In civilian cases of neurosis we all recognize that this ethical problem is present when the removal of some *physical* symptom (instead of an *act*) that is substitutive for, and represents, some held-down wish against which it has been acting as a successful defence, gives rise to precisely this inner activity that has been smothered and ‘bound’ in the physical symptom. There is seldom any trouble in these cases, for they have never got beyond the realm of fantasy. But the analyst would find it extremely difficult to play the role of the physician (the ideal parents) and also be the representative of the social legislature in cases of severe delinquency; he will usually be only too glad to depute the latter role to the environment in which he is to treat his patient. And our aim and contention is that the organization and atmosphere of this environment should exclude the superego qualities that are inevitable where many and diverse types of offenders are held under conditions that must militate against the work of research and treatment.

III. TYPES OF OFFENDERS TREATED

(1) *Ordinary delinquency*

By this I mean the delinquency of those who continue to show the ordinary vagaries of behaviour that an average child would be expected to show in the course of his development and which, if properly handled, he learns from and subsequently abandons. There are many in this category. They have been environmentally suppressed and restricted

(the over-conventional home that does not provide for the outlet of healthy instinctual energy is a bad offender in this respect) and have failed to work through their early urges and mistakes, and so cannot be said to have arrived at the point where they could say out of their experience that the game was, or was not, worth the candle. As a contrasting group one finds those who have been allowed to go on making their early mistakes and egocentric errors, or got away with it, so that the game did seem worth the candle to them.

In the former group one finds that the offender throws out his history and material haphazardly in isolated incidents, unrelated to any particular time in his mind, usually overcharged, and lacking in any true function save the pleasure principle of sensation. He does not appear to have any idea of a continuity of himself, and there is no reason or rhythm in his pattern. He lives from day to day in a world that is continuously recreated and dies at bedtime, and not in a continuously created world that he lays down and takes up again on waking at the point where he lost consciousness. It takes several interviews—it may be eight or more—to get all his jig-saw pieces and make a picture of them in a linear, temporal sequence. Until this is done it is extremely difficult to say that one thing followed on another with any causal nexus involved. He himself has never tried to see it so. But when this is presented back to him as if it were a moving picture of his own life, he becomes *interested*. And then it is as if he were sitting beside the therapist in the audience, seeing it through his own eyes as well as that of the community. Usually there is much that he doesn't like, but he is interested in much the same way that a boxer who had been knocked out in a fight might study it from a movie-picture afterwards. These are the short cases. A point that strikes one in this category is that a single interview however prolonged, or any battery of tests, would be unlikely to arrive at a suitable prognostic assessment. Surely, one might term these cases 'normal delinquency'?

In the group who have been getting away with it the first conviction is often the last. They are convicted, and *convinced*, in Court. The game is not now worth the candle. With them it frequently comes out in the investigation that previous 'Binding Over' without any special conditions attached has been regarded by them as a victory for their side against authority. 'It was too easy' is the verdict. Here punishment may have a deterrent effect, for there is no repression with the subsequent compulsion to repeat: but this punishment should have been administered in their own homes. Where repression exists mere punishment is unlikely to have a desirable deterrent effect, and can act only through strengthening the neurotic superego with involvement of the instinctual urges that, sooner or later, lead to a return of the repressed.

(2) *Environmental delinquency*

The environment is everything that is not primarily the individual, and is outside him. In practice it is an abstraction to consider the one without the other, save possibly in the earliest months. The environment can raise inferior and debase superior material. A normal child brought up in a 'Thieves' Kitchen' would be expected to become a thief if this were approved of by the upbringers. What strikes one as an important operating factor here is an essentially social trait, namely, the securing of the approval of those upbringers. If the child grew up at variance with them he might well develop a reaction-trait against dishonesty, and though he might later on fail, the type of delinquency would be very different, and of a definitely psychogenic pattern. Thus one finds in the same family where

both parents were drunkards that some of the children take to drink early, whilst others may become total abstainers. The treatment of environmental behaviour disorders is mainly that of the environment, parental and geographical.

(3) *Delinquency involving sexual ignorance*

This ignorance is commonly found in many sexual misdemeanours and offences, and sometimes in larceny. Frequently, all that is necessary is to give offenders a comprehensive instruction in sex, and it is interesting to note how quickly and eagerly they absorb this. Strictly speaking, this is educational rather than psychological. The inferiority that ensues upon a neglected education is well known. The individual often appears somewhat of a dullard or even to be mentally deficient because, lacking a shared body of factual knowledge, he hesitates to enter into any conversation. And so he steadily misses the practice of putting words to his ideas and if he does jump into a conversation he bungles, gets flustered and feels humiliated. More than ever the safe way for him seems to be to keep out of all contributions to discussions and to efface himself. The sexually ignorant feel just the same inferiority and their ignorance imputes knowledge to their fellows who are free with sexual slang and ignorant boasts about their sexual exploits. In these sexually ignorant individuals the sound knowledge of a natural process in themselves gives relief and their demeanour with their fellows alters almost at once. Since most of our thinking is with the aid of pictures the accurate picture of the biological reciprocity of the male and female organs certainly does something to render mere repetitive masturbation, with stale fantasies, a colourless process by comparison. After instruction the idea of function has entered. As one adolescent, who was sentenced for an aggressive attack on a younger girl when her precocity caused him to realize that he was impotent, said: 'I see it all hangs together.'

My practice is to give them four sessions:

- (a) Anatomy and physiology of the sex organs in the male.
- (b) Anatomy and physiology of the sex organs in the female.
- (c) All stages from the fertilization of the ovum by the sperm to the birth of the full-term foetus.
- (d) A final session devoted to any questions and implications arising out of the previous three sessions.

The talks are illustrated with plates and diagrams.

(4) *Psychoneurotic cases*

These are nearly all sexual misdemeanours and offences, and offences against property and persons. The most common feature of these offenders is that they, in common with the civilian neurotics, regard themselves as like others; that is, normal save for this particular part of themselves that offends, and about which they feel shame and guilt. It is as if there were some extra-territorial personality that has been tacked on to them in some manner, and which exercises a mandate over them from time to time. The relationship between this category of delinquency and ordinary civilian neurosis is indicated by similar curves of incidence, and the declaration of the pattern of delinquency follows closely that of breakdown in civilian life. A time when restricting defences wear thin and get out of date and ineffectual is around 30 years of age. After 30 the incidence increases in civilian

and prison cases—as anxiety crises in the former and indictable acts in the latter. The latter come before the Courts whilst the former go to civilian psychiatrists.

The first three categories discussed present a different clinical picture from the fourth category, that of psychoneurotic types. In the first three there is a continuation or *persistence* of some aspects from very early childhood phases with egocentricity, ignorance that carries much innocence, sentiments of an individually acquired subjective character, and other phenomena that would be best termed immature. Guilt is commonly lacking as an inner attitude to the acts. They may be anxious but it is about their home or parents, and whether they will come back to prison. They form a sharp contrast to the psychoneurotic group who evince much guilt and shame with, perhaps, physical symptoms of the type that binds the anxiety as in conversion cases. These conversion types are commoner in prison than outside, but are comparatively infrequent, though psychosomatic phenomena are commonly met with. The contrasting groups seem to sort themselves into two categories which might be described as:

(1) Persistence of early childhood phases with nothing to prevent facile regression to these levels; and with little super-ego guilt sense.

(2) Repression phenomena which prevent the individual from knowing what compels him to repeat acts about which he feels intense guilt.

(5) *Psychopathic personality*

The Psychopathic Personality (P.P.P.) is one of the major problems of the Prison Commission. We do not know enough about these cases at present and it is not enough to give clear-cut clinical descriptions of the different types. They differ fundamentally from the majority of offenders in this respect, namely, that they lack to a greater or lesser degree precisely those qualities and traits of human behaviour that contribute to the fabric of a social milieu. It may be countered that all offenders are alike in this respect, and this is true. But the non-psychopathic offender, if he is still reclaimable, subscribes to these social values in the abstract. He may not manage to live fully up to his ideas, but these values are imprinted in his mind as ideas that are *good* ideas—which is so typical of the neurotic standard that is too high for the individual to implement. This appears to be the fundamental difference between the P.P.P. and the neurotic or immature types. The position in regard to treatment puts the psychiatrist in somewhat of a quandary. There is, on the one hand, a tendency to regard them as resting on a defined psychopathology which, applied under suitable conditions for treatment, would or should resolve the condition. But since it is not practicable to get these conditions for the severer cases in the civilian community, and to protect the public at the same time, the thesis has never been satisfactorily tested. But for various reasons treatment under prison conditions is extremely difficult. Meanwhile they pile up and are the bugbear of the Courts. If suitable conditions for their treatment are created this theory will have a chance of being tested out. On the other hand, there is a tendency to assess them on conduct, much as mental disease is assessed, and it would then be all too easy to dispose of them by some special institution until it was felt that they were safe to be discharged. For a therapist this would mean everything that is undesirable, for it would lead to an ever-increasing battery of tests of conduct, and less and less to an inquiry into the factors behind that conduct.

If the aggressive types—which seem to be explicable as epileptic variants—are excluded, most of the cases are of the unethical type that East calls attention to. Here again we find

a persistence of behaviour from early years, with spoiling as by far the commonest single factor; and this is very frequently associated with some natural facility for getting attention and what they want without contributing effort on their part. Thus they grow up unpractised in applying themselves to tasks and unable to earn money that skill commands. The *pseudologia fantastica* type is relatively rare and usually involves impersonation and the assumption of some role that brings more favourable notice than they get as themselves. In wartime the assumption of commissioned ranks and medal ribbons is the commonest phenomenon.

A type of offender who may appear similar to the P.P.P., but who is the outcome of psychogenic defences, is the severely reaction-traited, 'lone wolf' type whose behaviour has become systematized.

IV. PSYCHOPATHOLOGICAL CONCEPTIONS IN THE TREATMENT OF DELINQUENCY

The most completely worked-out body of psychopathological theory is the psycho-analytic doctrine, and its adherents claim that it offers an explanation of all degrees of delinquency and crime in a manner that other theories fail to do. Its comprehensive objectivity and its emphasis on the instinctual urges are obviously attracting factors and, above all, its method is of extreme value in research. Yet few would deny that there is too often some elusive factor required to tip the scales in favour of the abandonment of fixation points in the libido. Where do we look for this elusive factor?

Regarded as phenomena, the chief distinction between the neuroses and delinquency is that we find symptoms in the former and actions in the latter; and though of course there are many motor activities in the neuroses, the inhibition of function is the more likely symptom. The theory of repression, which operates through inherent tendencies in the ego being opposed to the instincts pursuing a straightforward course toward their primary goals, offers a satisfactory explanation for much neurotic and delinquent behaviour. The conflict, together with the affective disturbance, is resolved or rendered bearable by relegating the offending wishes and urges to an unconscious level of the mind. If emotional conflict is the most important factor in neurosis and repression is the main defence by the incompetent ego, and if the same underlying agencies are to be postulated for delinquency, the whole onus for solution of the behaviour patterns in both categories will be on continued exploration of the mechanisms of repression and of the emotional life. Viewing the question from the angle of energy, McKinney writes (1930): 'By emotion I understand the modification of energy (difference of potential) of the body by which the power in action of the body is aided or restrained, increased or diminished, and that this difference of potential may be expressed both psychically and physiologically, and that energy so expressed is the same kind though differing in organization from that found in the universe.'

The term 'psychically expressed' is important, for it is a total affectivity that includes the emotional range *plus* any psychic states of consciousness which may be fleeting or prolonged. For instance, in catathymia we are dealing with changes to which the psychic content is subjected, and transformed, by affective influences. And Kretschmer (1934) has described various primitive reactions in which the affective impulses elude the total personality and are directly translated into action, with abolition of intermediate functions. In other words, these reactions may be abnormal, temporary states, with clouding of consciousness, in which stupid or seriously delinquent acts are committed—but not necessarily as a result of repression. Kretschmer (1934) speaks of repression as a centri-

petal psychic mechanism of dissimulation which succeeds in deceiving the self, whereas the more primitive catathymic states are centrifugal dissimulations of a temporary character; the two together forming a functional combination which is characteristic of hysterical patterns. These primitive reactions range between sustained complex actions and poorly motivated actions in which nothing more can be perceived than 'deficient resistance to a fleeting, momentary impulse'. Several points occur to me:

(1) There are a number of offenders who feel in connexion with their offences none of the anxiety that is usually associated with unconscious conflict, though they realize in the abstract that their conduct was wrong. They are often able to acquire corrective standards of behaviour in the group during treatment.

(2) In looking for the cause of their offence one finds emotional immaturity as a common factor, but this immaturity appears to be a persistence, as non-development, rather than the outcome of repression. And it suggests that some initial and irrational level has not given way to the adult cognitive categories and adult causal reasoning. This irrational, affective level, not repressed but merely latent, may become active again in later life without setting up any of the anxiety that would be expected if it had been repressed; and when it does occur the conduct arising gives quite simple relief or pleasure. The majority of these offences belong to the sexual category, such as exhibitionism, mutual masturbation, and genital handling. The alteration of this conduct seems to come about through the awareness of unpleasure, as a natural ambivalence in which a counter-balance to the previous conduct comes into play. In other words, the conduct will only be resisted if some process of learning shows the offender that it brings unpleasure as well as pleasure. And this he learns in the group treatment and from the group; he learns it as something that is reasonable. One obvious aid to acceptance of his change in conduct arises out of his new and shared experiences that are found to be preferable to his previous limitations. And while it is true that early repression would have prevented this learning from taking place, it seems also possible that early interferences, or lack of interference, may have forestalled the development of the relevant interest and have so precluded both repression (of all degrees) and a more conscious process of learning. For instance, the taboo on touching may become established by more or less mechanical prevention without necessitating any process of repression on the child's part.

(3) When we inquire into the building up of sensory thresholds it is easier to observe the effects of the stimuli entering through the external senses than to assess the early components of affectivity and feeling tone, which vary widely in the individual. Difficulty in learning to build up thresholds against unpleasant stimuli is more likely to lead to discharge of tension along psychosomatic lines, but in the absence of tension and organic expression are we dealing with an unusual facility to resist unpleasant stimuli, or with an undue satisfaction with pleasant ones?

(4) Fantasy must play a large part in the formation of sensory thresholds. One contribution comes from Jung who maintains that fantasy is not based solely on objects learned about in the external world, and that it may in part be due to components of the psyche that come into the world with us. A corresponding contribution comes from Kretschmer who postulates that the psychaesthetic quality of feeling tone included in these experiences is also brought into the world with us. However much we get from experiments the missing, intangible significance is always the contribution of the psychic activity, and there is no other way to come by this knowledge than by exploration of the

psychic field. For instance, one great puzzle that must occur frequently to all of us is to determine why an offender puts his fantasy into action at any one particular moment.

(5) In the analytic approach we have to rely on the analysand for our material, and there is a difficulty where words are used as vehicles for the psychic charges, a difficulty that is bound to arise when a concrete and mystical language meets a rational and abstract one. And another difficulty is the use of the term 'associative' for the material from the irrational levels of experience, for it implies too loose connexions for experiences in which the component parts are often intimately, if irrationally, fused.

These observations are an admission of ignorance rather than an attempt to explain the difficulties encountered. The psycho-analytic method has uncovered a vast field of hidden motives behind human conduct, but one becomes aware of a level where the probes seem to be too blunt to be entirely satisfactory. And if this is so, it is not possible to lay claim to the possession of positive knowledge of all the motives behind delinquent behaviour.

V. INDIVIDUAL TREATMENT

Some offenders are so tense and anxiety-ridden that when presented with the psychotherapeutic session they plunge down deeply into their unconscious; this means a lengthy analysis. For various reasons it is undesirable to regard all delinquency and crime as requiring the same approach as civilian neurosis in all cases. There are too many imponderables. The time factor is constantly cropping up; too much or too little time. And this difficulty seems insoluble save by some kind of indeterminate (treatment) sentence that drops the idea of penology as a deterrent, or as a form of treatment that wipes out the offence (and how seldom either of these theories is effective where psychogenesis is involved). And the home conditions and economic state of each offender on release—often so different from what these were when he came to prison—are hard to assess and meet. For some time there has been a Psychiatric Social Welfare Officer at Wormwood Scrubs, who does invaluable work but can scratch only the surface of all that needs to be done in this respect.

Just as it has been said that psychiatry is the other half of medicine, it may be said that delinquency is the other half of psychiatry. It is interesting that no place is found for Delinquency even in a psychiatric schema. Explanatory and educational methods are often preferable where faulty upbringing, rather than psychogenic mechanisms, figures in the make-up of the delinquent. Some psychotherapists complain of a treatment which deals with and detaches the affect from the conflict without a routine analysis to follow. The idea behind this is that, the anxiety being eased, the unresolved conflict drops back into the unconscious, and the individual's comparative sense of well-being will be but a fictive and unreliable security, until he regresses or repeats his offence. Most will agree with this where conflict is present. If it is not, it seems unnecessary that treatment should be directed to producing conflict as an initial step. For there is such an occurrence as developing on and away from unsuitable behaviour so that this conduct becomes literally abandoned. If normal development in childhood rests on forgettings during a latency period (where various neurotic traits may be evinced, but are not persisted with), it is not unreasonable to expect that some of the less severe neurotic patterns may follow a similar course, if the energy is directed into constructive channels that are socially acceptable. One could not analyse a patient while he was moving about, for the motor activity would

preclude any such analysis. But the converse may hold in suitably chosen cases, and the resulting action may preclude the necessity for analysis. Surely the last war brought home to us that as much neurosis was cured as precipitated by the altered conditions.

In the immature types of offenders, there is a need of an authoritative figure with a relationship that starts best on the basis of the 'kind-strict' father. They are, of course, very ambivalent and this flexible approach suits them. Most of them have missed a satisfactory relationship to the male parent and the kind-strict relationship is really one that distinguishes naturally between the act and the agent. The important aim is to enlist the interest as well as the resistances, for the level of contact is that of early childhood. In psychogenesis ambivalence is the crux of treatment during analysis. But ambivalence is not an abnormal phenomenon, in fact it is an inescapable phase of a child that is born alive and continues to live; it is at its height around 4 years of age. Where the ambivalence is more a persistence than the result of repression it is possible to turn it to account in short cases.

The importance of the broken home needs no stressing. But one of the most sinister kinds, because it is not so obvious or looked for, is one where there is little or no overt quarrelling, though husband and wife have lost all real values in the marriage before the children come along. When these arrive, the father seizes the opportunity to creep off and follow up his interests outside the home. Perhaps he salves his conscience with the idea that his wife has now a compensatory interest in her children. These are left more and more to their mothers and the male parent is like a super, flitting across their back-stage, and taking no interest in them and their doings. In his book *The Adolescent Criminal* East (1942) quotes the following figures: 'A group of 199 lads who had no father throughout but who had a mother at the age of 5 years, and in some cases after, records 162 convictions previously, compared with 122 expected, an excess of 40. All the other groups show some excess of convictions *except the group with no mother throughout but with a father at certain ages*' (italics mine). It is very difficult for the mother to be the law-giver and the executive authority, when a father is present, without this role being antagonistic to her biological and psychological values—the receiver of her child's outpoured feelings. But it seems as if a father can afford to be tender towards his children without this conflicting with his traditional role of holding authority and giving punishment where necessary.

Using this approach, whatever the category of the offence, one aims at a contact on this kind-strict basis of interested authority with special knowledge. If the case proves unripe it is not proceeded with, but, if suitable, after a week or two of preliminary investigation, it is transferred to the New Ward and Group treatment. But a case can be treated in the Ward from the first.

VI. GROUP TREATMENT

As an instrument for treatment and re-education in prison this seems more and more an approach of real importance. As an entity in itself the group must be an essential norm, since it is found in the animal world and in all primitive communities the world over. But, like natural human patterns, it can retain its form and alter its content, as happens when itself it becomes a gang under its leader; or it can be a highly suggestible flock that identifies with a saviour-figure in times of great peril. The group under treatment in prison approximates to a closed group. Once a week there is a session of 1½ hours when all the members and the therapist meet; in between there are individual interviews where necessary or

asked for. There is no compulsion for any member to attend the sessions and he has only to notify his wish to go to work instead. Apart from economy of time there are many advantages, a few of which I will mention:

(1) *Social processes involved*

(a) The Group setting provides an increasingly clear representation of the significant difficulties between the individual and the social community outside. The therapist observes each individual much more clearly as a total personality in and against the background of the other members. Difficulties stand out and the way that each member creates and deals with them, or fails to do so, and also any compromise neurotic alternatives. The rigidity of his traits and the resilience of his ego show up. Correspondingly, each individual has the same opportunity to see himself in his own interactions with the others, and also to be an observer of their interactions. All this happens at first hand, simultaneously, and as fully conscious experience. What the group gives differs from something learned in the abstract or in the individual analytical session, which has to be applied subsequently in the community outside.

(b) When a group session begins to function actively the members release new and spontaneous forces in themselves and these deploy into the fluid arena that is shared. Innumerable kaleidoscopic fields form and reform, and all such are glimpses of the outside world and how each member acts under stimuli. The member who does not participate at once reveals himself, and he has to be carried by the others until he comes out of his asocial shell. Apart from the help that this is to the therapist in assessing individual members, these are unconsciously assessing each other. Rejection by the group is an adverse and, on the whole, accurate prognosis that he is unripe for treatment. Much time may be saved by attention to these verdicts. Time is also saved by the way that the sessions provide accurate pointers of what is amiss and needs more active help in a member. And the fact that the therapist has already been a witness of this removes much of ordinary resistances in coming directly to the point in the individual interviews.

With any theme started by a member (the therapist discourages set themes but naturally welcomes any objective difficulties, which are often about prison regime), those who contribute project themselves with their assets and failings, their ego-acceptances and rejections, into the group arena. As this occurs, it frequently happens that the topic that started this activity begins to lose its importance. It is as if the new experiences are of far more importance. This is a point I will refer to later. What happens and is observed at first hand is far more valuable for the therapist than any battery of tests or mere addition of character-traits. It is a living experiment, *in vivo* rather than *in vitro*.

(c) The group socializes and educates. Once a prison group has formed, the morale of its members is far higher than that of the offenders in the main Halls. One group discussed and analysed the difficulties of an offender in prison, and these focused under the headings of (1) hardships due to the regime of prison life, (2) the treatment of prisoners by prisoners, and (3) the difficulties from the idiosyncrasies and complexes of individual officers. If a postal vote were taken of untreated prisoners in the main Halls it is probable that the findings would be roughly 33% under each heading. But the findings of this particular group were (1)=25, (2)=70 and (3)=5%.

A treatment group draws out the individual's capacity to share and contribute. Society is really no less than this in the way it hangs together, namely, that each individual feels

himself to be a component part of an organized human machinery that requires his contribution. This gives him a place in society, and it is interesting to note how important particular chairs are for members in the sessions; it is *his* place in society. An individual must feel that he has a positive value focused in the group, reciprocally, so that the final conclusion works out that the group is more important than the individual.

(d) A group of this kind has no recognized leader. This does not mean that any member may not have a great influence on the others. If this influence focuses so that the others tend to depend too much on one member, it probably means that such a member is ready to pass on to a wider sphere—a more open group such as one of the special types of prison. It is not uncommon for a member to say that he feels fit to move on and that he wants to test himself out with strangers.

(e) An interesting phenomenon arose spontaneously at the outset of this prison group, and has continued to operate as a rule of membership. In the main Halls it would be resented if one prisoner asked another what he was 'in' for. But in the New Ward each one lets the others know the nature of his offence. He is thus relieved from keeping up any mask of appearances with all the mental tension of keeping this intact. This factor of secrecy is an important one, as all therapists are aware in analytical work. For the individual who hides a part of himself of which he is ashamed is thereby tied to that part, and the activity it represents. And the danger is that this secrecy provides a hidden avenue back to this activity, with the risk that he will use it to revisit his earlier forbidden love when boredom, conflict, or the strains and stresses of life cause a damming up of healthy outgoing of energy to the world and the community. And, of course, such secret activities cannot be shared, and this means loneliness. If they are shared, in all likelihood this will entail the commission of an act that is delinquent or punishable.

(2) *The function of the therapist*

He is the real power but he has to remain more behind the scenes than he does in individual analytical work. This he contrives by directing the attention on himself back into the group session, so that the members may discover here a power in themselves. Group treatment becomes dynamic through the members' common need of help and their lack of power to manage their relationship and direct their energies in conformity with the laws of society. Their inadequacy, anxiety and dependence on the therapist give him an unseen power that holds the group together.

In his Address, 'Quo Vadimus?', from the Chair to the Medical Section of the British Psychological Society (January 1946) Dr E. B. Strauss mentioned the value of Symbolism and Myth as universally practised truths of experience that satisfy mankind at a level that is felt rather than cognized. He pointed out that the Saviour-Image was one such world-wide experience in helping the individual to focus constructively, and to come to terms with the collective guilt (anxiety) of mankind. He also drew attention to the fact that the roles of Saviours and Heroes appeared, historically, to be mutually antagonistic; and that Saviours tended to be sacrificed. This provides a useful analogy for following some of the dynamics of group treatment in its early stages.

The genuine sufferer needs help and wants the magic of a saviour, and he tends unconsciously to try to force this role on to the therapist. Apart from the fact that the therapist has no wish to pose or regard himself as such, the main objection to accepting such a role, passively even, is that every neurotic wants to be dependent and carried to a greater or

lesser degree, despite what he may consciously think and affirm to the contrary. Warned by this, the therapist is aware that if he permits this wish to be gratified at the outset, it is going to be exceedingly difficult to wean the individual later on, and that the sooner this weaning process is started the better for all concerned. By preferring to sacrifice the role of saviour, the therapist can help his patient, and even live on afterwards to become his friend. If one accepts the function of being a prop, the results are tedious, never finally fruitful, and one gets no thanks from the sufferer for, when the prop is removed as it must be when he gets outside prison, he is likely to crash again.

Thus the initial contact with the therapist is overcharged with the obsessional over-interest of the sufferer in himself, and this importance is transferred to the therapist. He passes it back into the group sessions. There some remark or theme is introduced; if it is some criticism of prison regime it is already over-charged emotionally. But if not, and the remarks are taken up, it is not long before dynamic forces are in play. The therapist now lies back and watches the interactions of the members. Sooner or later the original subject, that stood out first, yields its importance to that of the personalities of the members, and they get a far greater satisfaction from this new experience than ever they would have got from sticking to the original subject, or vesting its importance in what the therapist had to say about it. In fact, the therapist has only to pronounce some *ex cathedra* utterance to stop any further activity. As interactions occur and energy is freed, the capacity for relationships emerges, and these are both positive and negative. What is noticeable is that the actively participating members gradually leave the past behind them, with its tensions and introspections, and come to the reality of the present. One of the most noticeable and common signs of improvement is a shedding of self-pity. This watching brief of the therapist entails much concentration. He has to forestall a situation from getting out of hand where over-charged feelings threaten to focus dangerously between members; he can also enliven a flagging situation or draw forward a member by recalling some contribution that was not taken up. And as the initiative and power pass from himself to the members of the group he cannot fail to notice their different bearing among themselves, and to him in the private interviews. In many different ways he is able to corroborate and check his assessment of the individual and the general situation.

We mentioned Leaders and Heroes. Heroes are mythical figures and have their positive value. A father-figure tends to be a mixture of awe and hero-worship to his small son; and the more the awe the nearer to the Saviour-Image. The ordinary father is somewhere in between the two. He is too far off in years to be a practical and attainable hero for long, whereas at school the hero will be another boy who is only a few years older, and the aspirant has a chance of achieving the same status in his turn. Here a hero-figure may be a fruitful and practical stimulus. If the aspirant becomes the hero in his turn he has to start all over again at his next school. And so it goes on till he outgrows the need of the hero-image, and his heroes fade away just as all the old Sagas depicted the Birth, the Rise, and the Fall of the Hero. Heroes should die at the right time or they tend to linger on as a sentiment that we have outgrown. As used to be said in the first world war: 'Old soldiers never die; they just fade away.'

In regard to Leaders; no one would question their value in ordinary communities. They are apt to be a doubtful value in insufficiently socialized groups when they are appointed by external authority. It is not uncommon to find that leaders who did well in their Borstal Institutions (where they have supervision and support from the framework of the

Institution) failed when they got outside. In these cases the leader was supported too much in the group and the Institution, which acted as a metaphorical corset to the looseness of his ego-structure. Yet this very support indicates the socializing normality of the group entity. On the other hand, we can note how the group ceases to function in a socializing way and becomes a gang. One often sees a young Remand case admitted to prison, anxious, ashamed and keenly feeling his position. After a day or two his demeanour suddenly alters and he appears with his face wreathed in smiles. He has become one of a gang of Remands who behave in a 'tough' manner and go as far as they can without incurring punishment (and the latitude is wide by comparison with the convicted offenders), in non-co-operation with prison regime, and in aggressive behaviour towards the convicted offenders and other Remands who remain keenly feeling their position. The convicted offender dare not retaliate for fear of losing remission for good conduct. If investigation were made it would probably be found that one individual lies behind the gang, and that he has imposed himself on the others by physical fear and force. The difference between the group and the gang focuses on the degree of sharing and the manner in which the aggressive energy is managed and directed.

(3) *The dynamics of group functioning*

What I have been briefly describing as some of the dynamics of group treatment is happening all the time in our world outside prison. It is all true but it is not new truth, and we all knew it without realizing much of it. It is curious how often, when we are seeking truths for dealing with human problems, we seem to be looking through the truth. If some group results appear to be amazing it is just because we, who have the good fortune to be sufficiently socialized to keep out of prison, take it all for granted. The fact remains that group treatment helps handicapped individuals to recognize through their new experiences truths that have been too long neglected, but which they had within themselves without realizing.

VII. THE ATTITUDE OF THE PUBLIC

We can abstract one highly important significance from group treatment. It is an important point that deals with penology, and the ordinary citizen's attitude to the offender before and after he comes out of prison.

It is still fairly widely held and sometimes levelled against psychiatrists that they seek to excuse all kinds of antisocial conduct, and even that they try to shield offenders from the consequences of their acts. I do not think that this is accurate to-day. Psychiatrists are not wishful to live in a disordered world any more than other members of the community; but they do stress the importance of the subjective factor. Not only do they stress this for the treatment of delinquency and crime as part of the disposal of cases that come before the Courts, but as part of the attitude toward that behaviour, i.e. toward those *physical* acts that are, if indictable in Law, termed the *actus reus*. There can be no act without an agent, and the subjective factors lie in the agent if he is a human being. I mentioned that I would return to a phenomenon that we find occurring in every dynamically active treatment group. This is, whatever the subject may be that starts the group into activity and acts like a catalyst, that once this activity emerges the original subject begins to take a relatively secondary importance and may be lost sight of altogether. In prison groups the topic may be an antisocial act that the introducer

himself has done; the same thing happens. What is experienced during the ensuing activity, and what is gained from this subsequently, has such inherent values for the members that it means far more than what started it all, and thus leads away from it to the new truths. And this may happen though the topic itself has logical truths or principles of the utmost value. It seems as if the minds and personalities of the members had not been able to appreciate such values as abstractions, and are finding them as experiences.

From this it seems justifiable to draw an analogy. The subject that initiates the vital processes of socializing influences in the group sessions may be likened to the *actus reus* that brings individual members before the Courts. It stands out to our external senses and is immediately acceptable to our perception. But if we are going to stick too closely and literally to these physical facts, or to the topic introduced into a group session, we are unlikely to get very far in regard to the underlying values of a subjective nature. When discussions take place in the Ward without the therapist they usually end in arguments and a splitting of the group into factions, with one trying to master the other. Nothing that I am saying is intended to detract from the fact that acts can be, and indeed often are, shockingly unethical and antisocial, but if we are going to deal *only* with the values of ethic and morality in regard to the *actus reus*, we shall be back to the Ecclesiastical Courts; and we shall be getting into a cul-de-sac for the offender because we shall be doing nothing to help him to be aware of and understand the operation of those psychological factors which are the cause of the repetition or continuance of his behaviour. But, if we use the *actus reus* in the same manner that we use the subjects that crop up in the group sessions, we shall find that what brings members to prison begins to take a relatively secondary place. *Their* anxiety or guilt begins to be lessened as they free themselves from the past, and similarly *our* demand for retaliatory punishment of them will also be lessened. As the offender in prison begins to develop those social traits and behaviour patterns that he, and we outside, so badly need, he starts to forget the importance of his offence to society. This is paralleled in his bearing with his fellows, within the prison regime, and with the therapist. If this does not occur, we have an emphatic prognostic sign. But if he does forget his offence, in the sense that it no longer has an obsessional or compulsive hold on him, is that a sign of iniquity in him? If we want this to happen the public must also be willing to forget and not remember against the offender what he has done when he comes out of prison a changed man. And surely the public must also develop a new attitude in regard to the concept of punishment as a curative agent in all cases?

It is always the physical act that stands out, just as the physical symptoms of illness stand out in their obviousness by comparison with the subjective feelings and sensations of ill health. The former are concrete and material and are grasped by those external senses that are spatial, and that we all share in common. But our subjective experiences belong to an inner, unique world of our own, to a world of time; and these are not shared, nor seen, nor known unless and until we communicate them to others by our words, gestures and actions. If this inner world is disturbed by the result of psychogenic repressions, or if there is persistence of some initially individual and subjective mode of perceiving the world that should have been abandoned and left behind with other childish experiences, we shall tend to communicate it to others by a display of ill-humour, peculiarity, or antisocial conduct. Whichever it is, and if we want to remedy matters, we must concentrate on this inner subjective world however much we may, and must at times, reject the physical phenomena. It is an understanding of this that really explains what the man-in-

the-street makes complaint of when he thinks that a premium of too kindly notice is being given to offenders by psychiatrists.

In conclusion, it is possible to start the socializing of antisocial offenders in prison, and to effect very great changes up to what might be termed cure, toward enabling them to take their place in the community. But there is a big disparity between activities and opportunity in prison and what is open to the ordinary citizen. Absence of opportunity is absence of temptation, and the prison regime itself is a support inducing dependence, once the offender settles down and accepts it, even when he is co-operating. This disparity needs further bridging than exists at present. It needs more elasticity from inside so that the offenders can be tested out in conditions more nearly resembling those outside in the community; but it needs in greater degree the understanding and good will of the community and the provision for the taking over of the discharged offender from the moment he goes outside. Some of the newer prisons are definitely a step in this direction, and on the whole much more has been done from within prison walls than has been done by the community outside. But however much is done from inside it will be largely wasted unless the general public is educated away from its retaliatory attitude to offenders, and from the idea that punishment is the main deterrent for delinquency and crime.

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RAPID RESPONSE SEQUENCES AND THE PSYCHOLOGICAL REFRACTORY PERIOD¹

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I. *The problem* (pp. 23-4). II. *Definition of terms* (p. 25). III. *Apparatus and experimental procedure*: A. *Building up the response rate* (pp. 25-9); B. *Breakdown of response* (pp. 29-36); C. *A comparison with actual tasks* (pp. 37-8). IV. *Summary of results* (pp. 38-9). V. *Discussion* (pp. 39-40). *References* (p. 40).

I. THE PROBLEM

It is well known that, when the human being has to make discrete responses at fairly long intervals, the beginning of his response is delayed by a period of about 0.2 sec. (his reaction time); i.e. a short interval of time is required for the sensory-motor circuit to be completed, and for the formulation of the response.

It has been shown that this interval can be slightly lengthened by shortening the interval between stimuli to 0.5 sec. (Telford, 1931).

It has, further, been demonstrated with paired stimuli that if the interval between stimuli is approximately 0.5 sec. or less a response to the second stimulus is often delayed until about 0.5 sec. has elapsed after the presentation of the first stimulus, unless the interval between stimuli is very short when the stimuli appear to be apprehended and responded to as a unit. It has been postulated that a stimulus is followed by a 'psychological refractory period' lasting approximately 0.5 sec. in the course of which the response to a second stimulus may be delayed, or omitted (Craik, 1948; Hick, 1948; Vince, 1948).

The human being can, therefore, not be expected to deal adequately with a series of discrete stimuli requiring discrete responses unless the stimuli are spaced at intervals of at least 0.5 sec.

However, in many skilled tasks rapid patterns of movement are executed and the elements succeed each other at rates higher than this. This is made possible when the stimuli for the movements can be apprehended in groups, and the responses may be similarly grouped (Bryan & Harter, 1897, 1899; Book, 1925). The speed at which such a task is carried out may be limited by the rate at which the limb can be moved; as in typing, where the stimuli are whole words or sentences which may be taken in at a glance, but where the maximum rate at which grouped sequences of responses can be made provides the limiting factor; or in some cases, as in receiving the morse code, an upper limit may be provided by the rate at which the series of stimuli may be apprehended. In both these cases the grouping of stimuli and responses enables the operator to achieve a higher speed than if he had to deal singly with each element.

In some cases, where the execution of the response takes longer than the apprehension of the stimulus, or where the stimulus must be perceived while the subject is still occupied with responding to previous stimuli, the formulation of the response, which occurs immediately in a discrete stimulus-response task, is replaced by a memory pattern.

This process is not an entirely stable one, in that, if the first stimulus group has not had time to become established, it can be disintegrated by later stimuli; also it may not be possible to establish the memory pattern at all if the new stimuli are perceived while the

¹ The following experiments were begun under the direction of the late Dr K. J. W. Craik, of the Psychological Laboratory, Cambridge.

subject is still responding to a previous group of stimuli. This may be compared with retroactive and proactive inhibition, and in some ways bears a relation to the refractory period described above in connexion with the apprehension of, and response to, a series of discrete stimuli.

In the present experiment it was decided to use a task where the display was simple and all the stimuli could be apprehended quickly and easily, while the limiting factor in the task was on the motor side, being provided by the rate at which limb movements could be made; the stimuli, which were single dots or groups of dots or numerical symbols, could be apprehended much more quickly than the responses could be made. Responses were made with a morse key and a single response was a downward movement of the key, sufficient to make contact and actuate an electromagnetic marker.

The aim of the present experiments was to find out how rapidly these simple responses could be made when stimuli were presented singly; and then to compare this rate with that achieved when stimuli, and consequently also the responses, could be grouped; also to compare the maximum response rate for grouped stimuli with the maximum free tapping rate, which is the limit provided by the rate at which the limb can move. The tests were then arranged so that the breakdown rate could be studied and the conditions under which breakdown of response would occur; and finally, response rates were compared with rates attained by practised and unpractised subjects in the more realistic tasks of typing and telegraphy, as it was considered that for trained operators these tasks would provide 'grouped' stimuli and responses, while for unpractised subjects in telegraphy the stimuli must be apprehended and the responses made singly.

No attempt was made in these experiments to compare the reaction times for these different kinds of responses; merely the number of responses which could be made within a certain time. It is known that reaction times vary with the complexity of the response, and presumably the reaction times for complex responses will vary with learning.

The experiments described below are concerned with the following points:

A. *Building up the response rate*

Experiment I. The maximum rate at which discrete responses may be made to a series of discrete stimuli.

Experiment II. The maximum rate at which repetitive movements may be made (the physiological limit).

Experiment III. Experimental methods of grouping stimuli in order to raise the response rate.

Experiment IV. The maximum rate at which responses may be made when they can be grouped in response to a series of grouped stimuli.

B. *Breakdown of response*

Experiment V. Conditions in which breakdown of response occurs when the rate is very high.

Experiment VI. Breakdown of response when a single stimulus is interpolated during the response to a stimulus group.

Experiment VII. The effect on the response of raising the stimulus rate above the point where breakdown occurs.

C. *A comparison with actual tasks*

Experiment VIII. A comparison between response rates achieved in the experimental tasks and actual tasks of typing and telegraphy.

II. DEFINITION OF TERMS

In this paper the term stimulus is meant to denote any single symbol or element in a set of symbols which indicates to the subject that he must make a single movement, i.e. tap once with the morse key. The stimuli in these experiments are presented in three different ways:

(1) Singly (a dot), which requires for a response a single movement (referred to as a discrete stimulus).

(2) In a set of single symbols, combined in a group, or presented as a numerical figure—1, 2, 3, 4, 5 or 6—and requiring for response a group of the corresponding number of movements (referred to as a stimulus group, or, if it is a numerical figure, as a stimulus symbol).

(3) In a set of stimulus symbols combined in a group, requiring for response a series of groups of separate movements (referred to as a set of stimulus symbols).

Similarly, the term response is used to denote one single movement, either made separately, or in a group. There are, therefore, three different situations in which a response may occur in these experiments:

(i) As a single response to a discrete stimulus (a discrete response).

(ii) As one of a group of movements, in response to a stimulus group, or stimulus symbol (a response group).

(iii) As one of a group of movements, in a series of groups, made in response to a set of stimulus symbols (a set of response groups).

III. APPARATUS AND EXPERIMENTAL PROCEDURE

Stimuli were presented as groups of black dots (or in some cases single dots) or numerical figures drawn on a band of white paper on a drum which moved at 20 mm./sec. The drum was screened from the subject, except for a narrow slit which was 3 mm. wide for each experiment, unless otherwise stated. An electromagnetic marker connected to a morse key wrote on the paper in line with the slit. The subjects were required to respond to each dot by tapping once with the morse key, or to each figure, by a grouped response consisting of the appropriate number of responses, and their responses were recorded on the paper below the row of stimuli (see Fig. 1). Each record lasted for 95 sec. A note on the subjects is included in the description of each experiment.

A. *Building up the response rate**Experiment I. Maximum rate of response to discrete stimuli*

The paper band was divided into thirteen sections. In the first section the stimulus dots were spaced at equal intervals of 1.0 sec. and in the following sections the intervals between stimuli were 0.5, 0.3, 0.25, 0.17, 0.14 and 0.1 sec. which represented an accelerating series, and then 0.14, 0.17, 0.25, 0.3, 0.5 and 1.0 sec. which represented a decelerating series. At random intervals one stimulus was omitted, thus providing a break which made the record easier to score correctly, as responses could not be made at random without being detected. There were eight subjects, of whom six were R.A.F. Air Crew under training, and two were research workers. They were aged between twenty and thirty.

26 *Rapid response sequences and the psychological refractory period*

The number of stimuli correctly reproduced is given in Fig. 2A (mean of eight subjects). Performance deteriorated rapidly when the interval between stimuli was less than 0.5 sec. Between the sections where the interval between stimuli was 0.3 sec. (accelerating) and 0.3 sec. (decelerating) the results are represented by a dotted line as the record became difficult to read between these points where subjects were confused and tended to respond

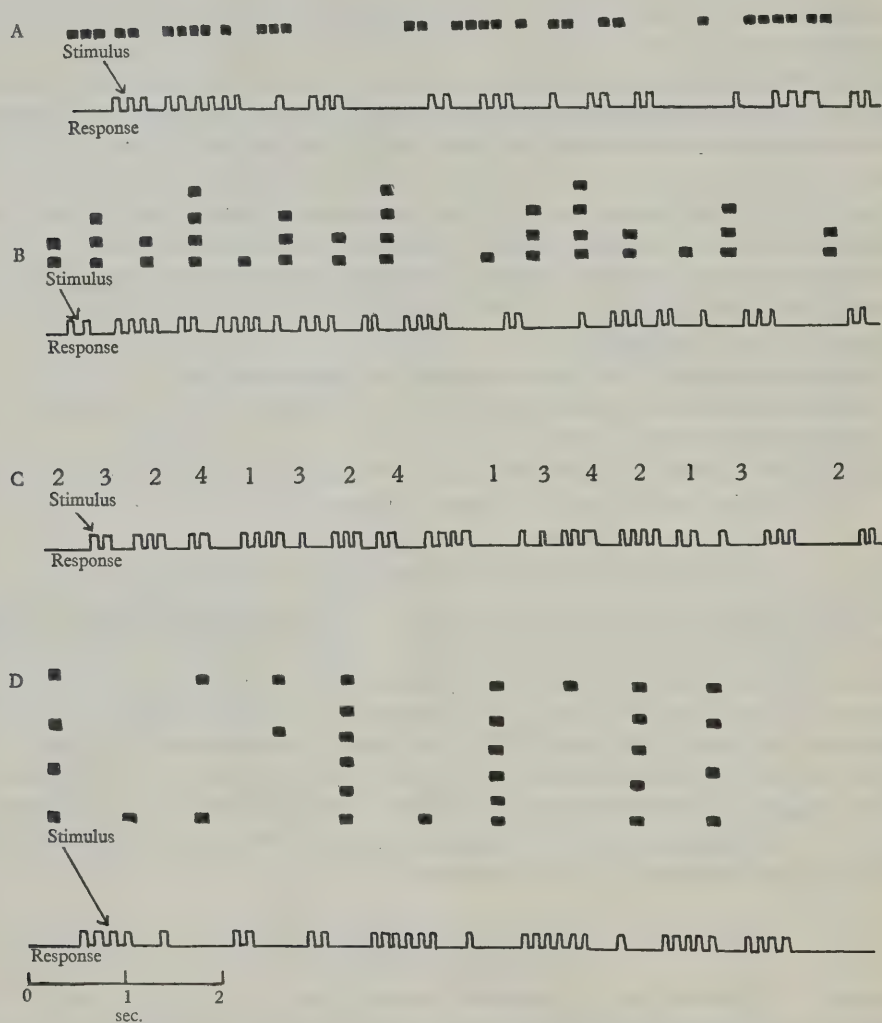


Fig. 1. Experimental methods of grouping stimuli. Typical records.

in a haphazard fashion. The very low values obtained at the shortest intervals indicate that the pattern of response has no resemblance to the stimulus pattern, but it is not known if the responses were really as haphazard as they appeared. For this reason the experiment was repeated using a choice reaction. The stimuli were marks either above or below a horizontal line, and the subjects had to respond by moving a knob, up once for each upward mark, and down once for each downward mark. Except at the shortest

intervals the results are substantially similar and are given in Fig. 2B. Of the ten subjects, two were research workers, and eight were Royal Naval personnel (seamen), aged nineteen to twenty-five.

Experiment II. Maximum free tapping rate, the physiological limit

In order to determine the physiological limit in this task, subjects were required to tap continuously with the morse key, as rapidly as possible for 30 sec. The rate varied from 5.33 to 8.2 movements per sec., the mean rate for ten subjects being 7.12 for the first 15 sec., and 6.65 for the second 15 sec. The subjects were R.A.F. Air Crew under training, aged between nineteen and twenty-four.

Experiment III. Increased rate of response when stimuli are grouped

In the third experiment the stimuli were presented in groups. Several different methods of experimental grouping were used, in order to discover which would serve as the clearest stimulus groups for grouped responses. The methods were as follows:

The stimuli were arranged in groups of either:

(a) 1-4, with a 0.5 sec. interval between groups; or

(b) 1-6, with a 0.75 sec. interval between groups; and were presented in four different ways, as illustrated in Fig. 1:

A. Serially. (In this case it was not always possible for the stimuli to be apprehended as a group, because in the case of the large groups they were not always visible simultaneously.)

B. In a vertical line.

C. The group was presented as a unit, represented by a numerical figure.

D. (Groups of 1-6 only.) In a vertical line, with the dots unevenly spaced. This arrangement was used to check the results of (B), as it was considered that subjects might be basing their response on the height of the group.

The twelve subjects were R.A.F. Air Crew under training, with an age range of nineteen to twenty-four.

Results are given in Fig. 3A, B (mean of twelve subjects); when presented as in B, C and D, the number of stimulus groups correctly reproduced was about 85 % for (a) groups of 1-4 stimuli presented at a rate of 2 stimulus groups per sec., and 80 % for (b) groups of 1-6 stimuli presented at a rate of 1.33 stimulus groups per sec. It is of interest to note that groups presented at a rate of 2 per sec. could be dealt with adequately, while the maximum rate at which discrete stimuli could be reproduced accurately was also 2 per sec. The fall in the number of correct responses made when the larger groups were being reproduced may have been due partly to the fact that the subjects had all had some training in morse and consequently were unused to transmitting in groups of more than five.

The number of stimuli reproduced per sec. was, in the case of (a) 4.358 and in the case of (b) 3.936. It can be seen from Fig. 3 that the method used under C (figures) was the most satisfactory.

Experiment IV. The maximum response rate for grouped stimuli

A test of the effectiveness of the method of grouping the stimuli (and consequently the responses) in order to increase the response rate was made by comparing the maximum response rate to grouped stimuli with the maximum free tapping rate.

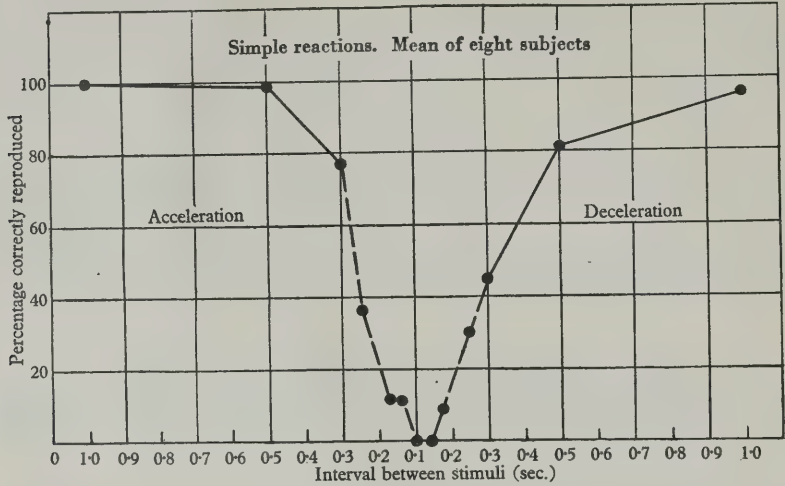


Fig. 2A.

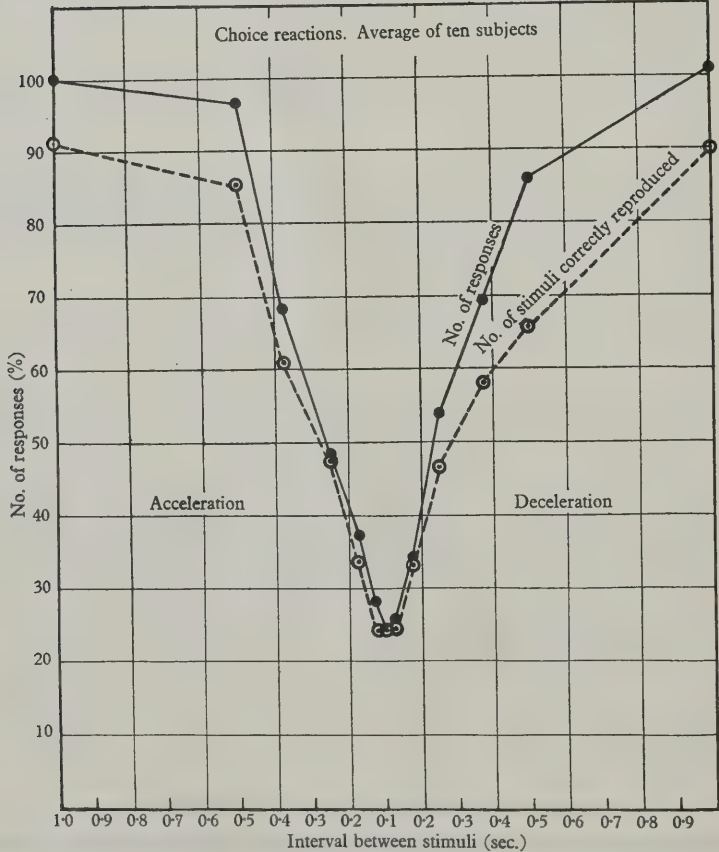


Fig. 2B.

Figs. 2A & 2B. Reproduction of discrete stimuli.

For this purpose the same apparatus was used as in the previous experiment, and the stimuli were presented in their most effective grouped form, as the figures 1, 2, 3 and 4; these symbols were presented in groups of four figures at 2 sec. intervals (at a rate of 5 stimuli per sec.). Eleven subjects, none of whom had any training in morse, performed the test with approximately 75% of the symbols correctly reproduced. This rate appears to be well below the mean maximum possible free tapping rate, which for these particular subjects was 7.19 responses per sec. It is, however, not possible to compare this maximum

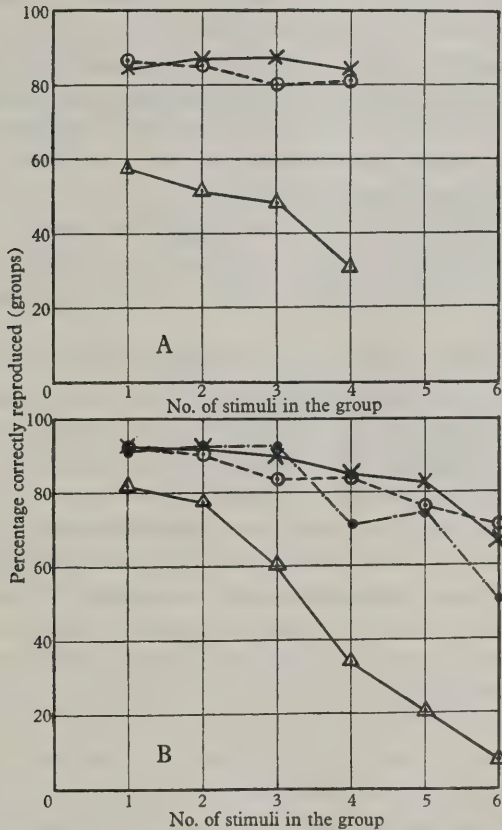


Fig. 3. Rate of response to stimulus groups. A, 2 stimulus groups per sec.; B, 1.3 stimulus groups per sec. x — x = type C, o — o = type B, Δ — Δ = type A, $\bullet$ — $\bullet$ = type D; see Fig. 1.

rate directly with the performance at the rate of 5 responses per sec., as, when the subjects were responding to symbols, they had to respond in groups, and leave a gap between each group of responses. If the gaps between response groups are counted as responses, this raises the rate to 6.93 per sec., which is almost identical with the maximum free tapping rate.

B. Breakdown of response

Experiment V. The breakdown rate for response groups: conditions in which breakdown occurs

In this experiment the display consisted of groups of four figures presented serially at regular intervals of 2 sec. Each group consisted of the numbers 1, 2, 3 and 4, presented in random order, and therefore each stimulus group required roughly an equal response,

30 *Rapid response sequences and the psychological refractory period*

i.e. 10 responses grouped in different ways. This rate of 5 responses per sec. was known, on the basis of the previous experiment, to be rather more than the average subject would be able to deal with accurately, so that periodic breakdowns of response would occur.

It was considered from scrutiny of the records that breakdown in the response might be associated with overlapping between a set of stimulus symbols and the end of the response to the previous set. For this reason, overlap was measured to find the mean amount of overlap present when a breakdown occurred. (When the subject is still responding to a group of symbols when the new stimulus groups begin to appear the 'overlap' is the time between the beginning of the new group of symbols and the end of the response to the original set.) As minor forms of breakdown indicated by small errors in the record often occurred, and tended to confuse the situation, complete breakdowns only were considered in the scoring. A complete breakdown, designated as a 'block', was defined as failure to reproduce correctly any of the 4 symbols in each group. Minor errors were thus ignored, for the sake of clarity.

There were ten subjects, all of whom were research workers and assistants, their ages ranging between twenty and thirty. Each was given two practice runs, the first consisting of groups of 2 symbols at 2 sec. intervals, and the second of groups of 3 symbols at the same interval.

A typical record is reproduced in Fig. 4A. It will be noted that the amount of overlap between the responses to one stimulus group and the next stimulus group gradually increases until complete breakdown occurs. This gradual building up of a situation which terminates in a block is illustrated from the records of three subjects in Fig. 4B. In this diagram the amount of overlap is indicated in seconds; +0.25 indicates that the responses to one set of stimulus symbols have overlapped the next group of symbols by 0.25 sec.; and -0.25 that the response to the first group of symbols was completed 0.25 sec. before the next group of symbols began to appear. 0.65 sec. has been marked on the diagram, as that was the time required for the presentation of one group of symbols, i.e. when overlap of that order occurred; the time taken to read off the group of symbols was also occupied with reproducing the end of the preceding group of symbols. A gap in the diagram indicates the occurrence of a block.

The amount of overlap present when a correct set of response groups was followed by a block varied from -0.05 to 1.15 sec. The mean amount of overlap causing a block appears as 0.64 sec., indicating that on the average a block was caused by the complete overlapping of the group of symbols by the response to the previous set of symbols. The amount of overlap present when one correct set of response groups is followed by another correct set of response groups varies from -0.3 to 0.065 sec., the mean value being 0.096 sec.

Experiment VI. Breakdown of response produced by a single interpolated symbol

Twelve subjects were given three practice runs as in the preceding experiment, when they were required to reproduce groups of 2, 3 or 4 symbols at equal intervals. In this case the groups were presented vertically (as shown in Fig. 5). They were spaced at equal intervals of $2\frac{1}{2}$ sec., as it was estimated that, at this rate, subjects should just be able to cope adequately with the most difficult run (groups of four figures). Of the subjects, four were students, three were research workers, and five were Royal Air Force personnel under training for Air Crew.

Subjects were then given two test runs.

In these runs, groups of four numerical figures (each time 1, 2, 3 and 4 in various orders, so that there were 10 stimuli in each group) were intermingled with groups of one, two or three figures. These sets of stimuli were all presented at unequal intervals, and the test sets of stimulus symbols, which each contained four figures, were presented after fairly long unequal intervals, so that in no case was the subject still responding to a previous stimulus group when a test group appeared. In this way the complication of overlap was eliminated.

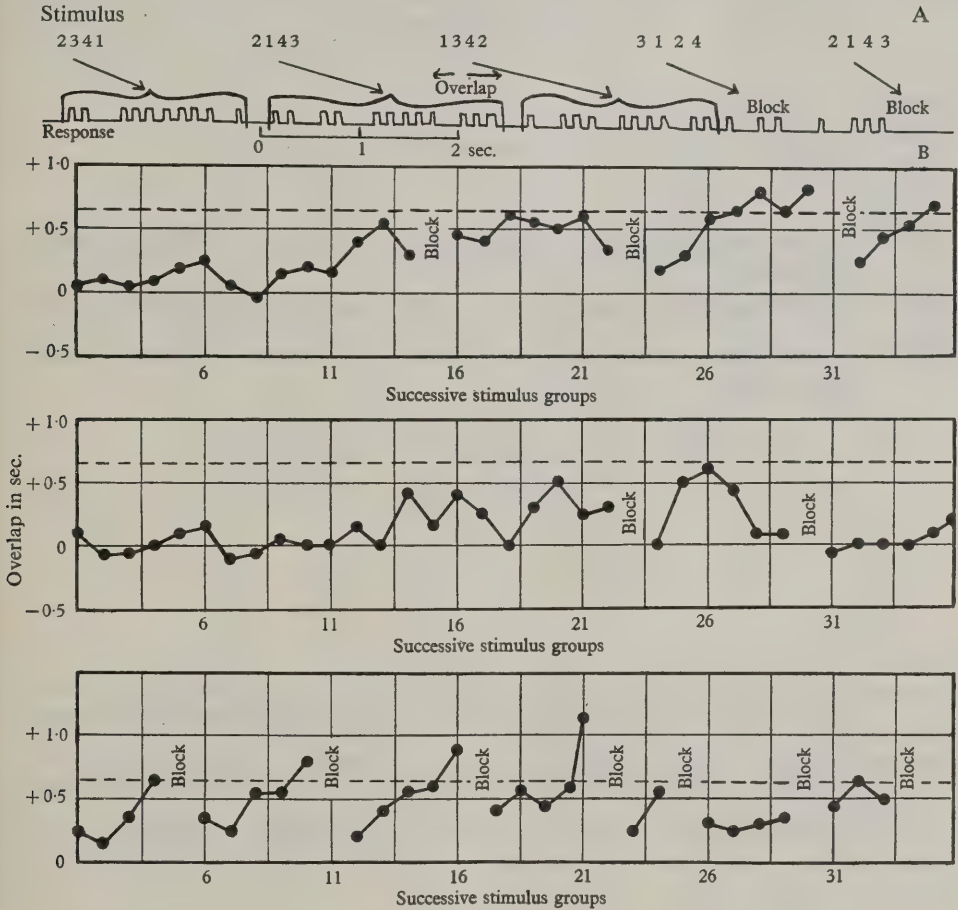


Fig. 4. Overlap between stimulus and response in a task involving responses to grouped stimuli presented at equal intervals.

In all, subjects were presented with 17 four-figure sets of stimulus symbols. Of these 9 were control groups (without interference) and were followed after a fairly long interval by another group of 1, 2 or 3 symbols, so that subjects were allowed time to complete their responses before the appearance of the next set of stimuli. The remaining 8 (with interference) were followed by an extra stimulus within the expected response time for the initial group. This extra stimulus was the figure 1, 2, 3 or 4 which was given after the short intervals of 0.5, 1.0, 1.5 or 2 sec. (twice at each interval). The longest interval was 2 sec., as on the basis of a previous experiment it was found that a group of 4 symbols could be responded to, on the average, within 2.5 sec. including the reaction time.

- (iv) Increased errors in response to main symbol group.
- (v) Extra symbol blocked (i.e. missed).
- (vi) Errors in response to extra stimulus symbol.

In calculating the results of this part of the experiment the symbols reproduced *before* the appearance of the extra stimulus symbol have been ignored. They were, in any case, correctly reproduced except for 7 symbols (4.5%); of these, five errors were due to the subject putting in one extra response, and two to putting in one less than the number required.

The results are summarized in Table 1*a, b* and Fig. 6.

Table 1

(a) Effect on response to set of stimulus symbols

Interval (sec.)	Col. 1		Col. 2		Col. 3		Col. 4		Total of cols. 2, 3 and 4	
	No effect		Complete block		Partial breakdown		Errors in reproduction		Affected in some way	
	No.	%	No.	%	No.	%	No.	%	No.	%
0.5	11	45.8	1	4.16	3	12.5	9	37.5	13	54.16
1.0	16	66.67	0	0	1	4.16	7	29.17	8	33.33
1.5	20	83.33	0	0	1	4.16	3	12.5	4	16.66
2.0	22	91.67	0	0	0	0	2	8.33	2	8.33

(b) Effect on response to interpolated symbol

Interval (sec.)	Inhibition of extra stimulus		Errors in response to extra stimulus		Total	
	No.	%	No.	%	No.	%
0.5	4	16.67	4	16.67	8	33.34
1.0	3	12.5	4	16.67	7	29.17
1.5	1	4.16	2	8.33	3	12.49
2.0	0	0	3	12.5	3	12.5

That the extra stimulus symbol occurring during the response time to the previous set of symbols sometimes produces a blocking effect on the initial response is thus shown. Sometimes the interpolated stimulus symbol is itself blocked. The effect is greater as the interval becomes shorter, and blocking occurs even though (1) a state of stress had not been built up in the subject by the continued presentation of stimuli at a rate which was slightly too rapid (as occurred in the previous experiment); (2) more than sufficient time was allowed for the completion of the response to the main group of symbols and the interpolated symbol, and (3) the interpolated symbol itself was a comparatively easy one to apprehend and reproduce.

Another point which emerges from this experiment is that the inhibition which occurs when stimulus and response get so out of time as to overlap is produced either by the responses to a previous set of stimuli overlapping the next set of stimuli and inhibiting its response, or by the second stimulus symbol appearing before the responses to the previous ones have been completed and inhibiting the remainder of the previous responses. There is some indication that the responses to the earlier stimuli are affected more than the later, when the second set of stimuli closely follows the first, and the responses to the later stimuli are more affected than the earlier responses, when the second set of stimuli appears after a long interval. However, the evidence for this statement is slight and it would not be possible to generalize from a situation where the two sets of stimuli concerned were so unequal as in the present experiment.

34 *Rapid response sequences and the psychological refractory period*

Experiment VII. Response when the stimulus rate is raised above the point of breakdown

The previous experiment produced a controlled amount of overlap between a set of stimuli and a previous set of responses, which seems to indicate that breakdowns of response were caused not only by the simple limitation provided by the maximum rate at which the limbs could move, but by a block in the sensory-motor system. This block would, it is true, be precipitated by failure to respond rapidly enough, so that the responses to a previous set of stimuli are still going on while the next set of stimuli has to be apprehended. The limit imposed by the maximum response rate alone does not, however, seem to be sufficient to account for the amount of error, or the completeness of the block when it occurs.

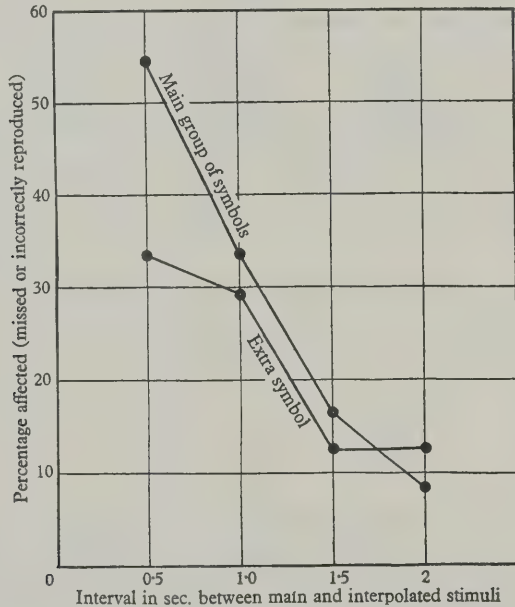


Fig. 6. Breakdown caused by interpolation of a single symbol. Average of twelve subjects.

An experiment was therefore devised to test this hypothesis that performance at a rapid rate is not limited solely by the maximum possible rate at which the limb can move, but by blocks which may occur when a certain degree of overlap exists between a stimulus and the response to a previous stimulus.

For this purpose, subjects were given five runs in each of which the stimulus rate was increased until it was much higher than the rate at which subjects could respond adequately. It was considered that, if the upper limit to the response rate were a physiological one alone, the number of responses made would approach this limit, and although the stimulus rate were further increased the response rate would still remain constant. On the 'blocking' hypothesis, however, increasing the stimulus rate above this point could cause an actual *decrease* in the response rate.

The data presented in Fig. 2A (the maximum rate at which discrete responses may be made to discrete stimuli) can be re-examined as a test of this hypothesis. In Table 2 the data have been rearranged to give the number of correct responses per second, at various rates. The total number of responses, whether correct or not, is also given.

It will be noted that the number of correct responses increases until the stimulus rate reaches 3 per sec. (0.3 sec. interval). Above this rate the number correctly reproduced falls off sharply; certainly the actual number of responses continues to increase, although many of them appear to have been made at random, at the higher rates.

Table 2

Interval between stimuli in sec. ...	1.0	0.5	0.3	0.25	0.17	0.14	0.1	0.14	0.17	0.25	0.3	0.5	1.0
No. of correct responses per sec.	0.9	1.51	1.57	1.05	0.56	0.65	0	0	0.48	1.42	1.37	1.45	0.85
Total no. of responses	0.9	1.62	1.86	2.45	2.71	2.75	3.0	3.12	2.97	2.78	2.09	1.74	0.89

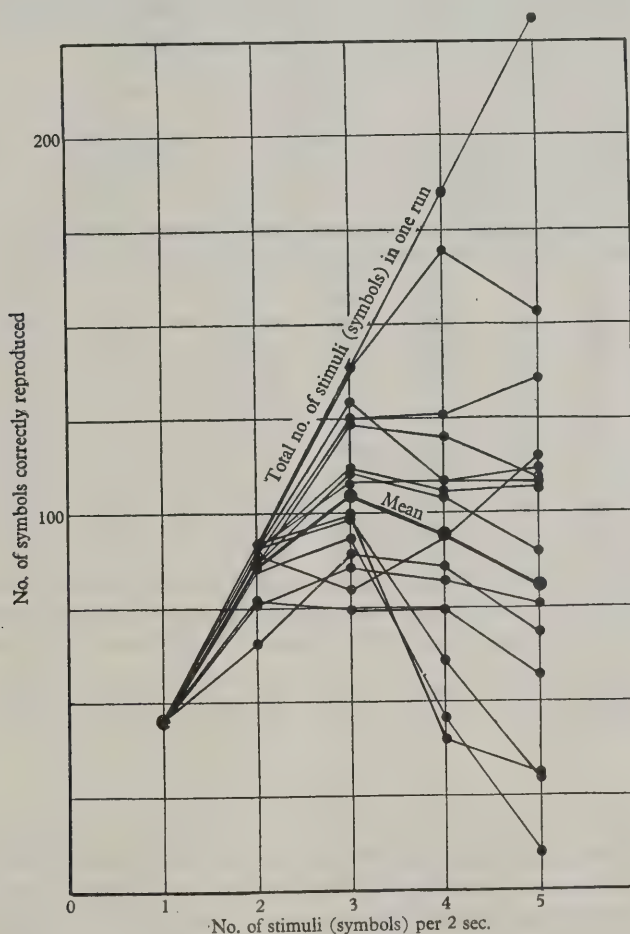


Fig. 7. Effect of raising the response rate above the breakdown point. Average of fourteen subjects.

The results plotted in Fig. 7 were obtained by using a similar procedure with grouped stimuli. The mode of presentation used in Exp. IV was repeated. Stimulus symbols were presented serially, in the form of figures. The experiment consisted of five records, where the sets of stimulus symbols were spaced at 2 sec. intervals. In the first there was one figure at each interval, and the slit through which the symbol appeared was 5 mm. wide; in the second the stimuli were in groups of two figures, with a 9 mm. slit, in the third there

were three-figure groups and a 14 mm. slit, in the fourth four-figure groups and an 18 mm. slit, and in the fifth five-figure groups and a slit 22 mm. wide; and finally, the maximum tapping rate for each subject was tested for 30 sec. Fourteen subjects completed the experiment, eight doing one record each on successive days, and the other six completed the experiment at one sitting, a 5 min. interval being allowed between each record to prevent accumulation of fatigue.

Fig. 7 shows that in most cases the predicted result did occur. With the majority of subjects the number of correct response groups increased up to and including the third record. Then it began to fall off, although (except in three cases where the subjects appeared to be responding at random) the decrease was rather slight.

As in the data given in Table 2 the total number of responses (correct or incorrect) continues to increase slightly as the stimulus rate increases.

Table 3

Subjects	Groups of 1 symbol		Groups of 2 symbols		Groups of 3 symbols		Groups of 4 symbols		Groups of 5 symbols		Maximum rate per sec.
	Correct groups	Total no. of responses	Correct groups	Total no. of responses	Correct groups	Total no. of responses	Correct groups	Total no. of responses	Correct groups	Total no. of responses	
1	46	116	91	228	108	288	107	279	108	299	6.13
2	44	116	77	233	86	281	82	318	76	296	6.00
3	46	116	90	228	112	306	106	317	107	325	6.00
4	46	116	66	255	89	273	86	230	68	315	7.23
5	46	116	87	227	123	336	120	356	109	298	6.60
6	46	116	90	232	137	346	169	442	153	437	7.83
7	46	116	92	230	129	326	108	289	112	311	6.13
8	46	116	87	129	111	317	104	331	89	267	7.20
9	46	116	89	233	125	333	126	330	136	364	8.00
10	45	115	89	229	79	233	93	278	115	325	5.50
11	46	116	77	217	74	234	74	315	57	292	7.33
12	46	116	85	227	93	283	46	381	10	448	6.30
13	46	116	92	230	109	312	40	384	31	448	6.60
14	45	117	91	229	98	288	61	327	29	460	8.77
Sum	640	1624	1203	3127	1473	4156	1322	4577	1200	4885	95.62
Mean	45.91	116	85.93	223.36	105.21	296.86	94.43	326.93	85.71	348.93	6.83
No. of stimuli per sec.	1.25		2.5 + $\frac{1}{2}$ gap		3.75 + 1 gap		5 + 1 gap		6.25 + 2 gaps		—
Total no. of groups and stimuli in each run.	46	116	92	230	138	347	184	460	230	577	—

These results are given in detail in Table 3. With the exception of subjects 1 and 6 (who were research workers) the subjects were eight Royal Naval personnel (six seamen and two petty officer tradesmen) and four Air Mechanics of the Fleet Air Arm; their ages were between nineteen and twenty-nine. The results of subjects 12, 13 and 14 have been included, although in the last two records their responses appear to have been made largely at random. It is not known if they were really trying to reproduce the stimuli correctly at these rates, or if they found rapid sequences of random responses the easiest way out of their difficult task. In any case, their results are atypical, as their total number of responses is much greater than that of the other subjects and their correct responses are many fewer.

C. *A comparison with actual tasks*

For comparison with the rates attained in the experimental tasks, subjects were given tasks of typing, and receiving and transmitting morse. The groups of subjects were in each case very small, the results being intended to serve only as an indication of rates attained by the various groups.

Experiment VIII

(1) *Morse Experiment.* Morse 'word habits' in trained operators seemed a good instance of 'groups' and their performance could be compared with that of unskilled subjects.

A Wheatstone transmitter was driven at 6 and 14 words a minute by a variable speed gear, as its own would not go below 15 words a minute. The output of the transmitter fed earphones and an electromagnetic marker writing on paper moving at 2 cm./sec.; a second marker recorded the subject's transmission, and a third gave 1 sec. time marks (see Fig. 8). Subjects were given the task of transmitting what they heard coming through the earphones—an unfamiliar task even to the trained operators, who complained that they were put off by not being able to hear their own transmission, although the grouping, both on the sensory and the motor side, was familiar to them. Untrained subjects could either transmit as single symbols or as letter groups.

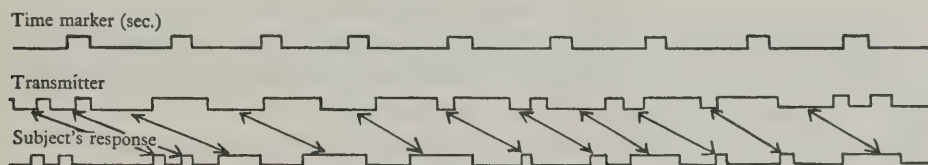


Fig. 8. Morse experiment. (The signals from the transmitter are inverted.)

The results are given in Table 4. The groups of subjects were very small, consisting of three experienced W.T. operators and two research workers who had no training in telegraphy. They show a time lag of about 1 sec. between the last symbol received and the first sent, in both skilled and unskilled subjects, but this represents a greater symbol overlap with the former who were able to transmit at 14 words a minute; i.e. an overlap of 2.4 symbols as against 1.5 for unskilled subjects. Similarly, the skilled subjects could transmit about 1.5 symbols while hearing stimuli which were correctly sent later, as against 0.4–0.9 for unskilled.

Table 4

Interval between beginning of group and beginning of transmission	One less than the no. of stimuli between beginning of group and reaction to it	Number of stimuli received while transmitting group
(a) Trained operators. Transmitting at 14 words per min. = 3.25 symbols per sec.		
(1) Plain language, 1.045 sec.	2.435	1.586
(2) Nonsense (tape reversed), 1.086 sec.	2.406	1.567
(b) Untrained subjects. Transmitting at 6 words per min. = 1.33 symbols per sec.		
Plain language, 1.608 sec.	1.513	0.910

(2) *Typing Experiment.* Another form of skill where symbols are apprehended and responded to in learned groups is typing. In the following experiment three touch typists (aged from twenty-five to thirty-five) were first given a short passage of prose to copy,

and then a series of jumbled letters which formed an unrecognizable sequence, the components of which had to be apprehended and responded to singly. The results are given in Table 5.

Table 5

Prose passage		Nonsense	
No. of letters in passage	No. reproduced per sec.	No. of symbols	No. reproduced per sec.
501	3.93	500	2.1
Mean no. of errors = 2.33		Mean no. of errors = 6.85	

These results show that the mean number of responses apprehended and reproduced per second is almost the same for the prose passage as in the plain language section of the morse experiment. When nonsense was reproduced in the typing experiment, the number of symbols reproduced per second was nearly halved, while the number of errors was more than doubled.

On the other hand, where the trained morse operators were concerned, the reproduction of nonsense still entailed sending in groups, most of which were familiar, and under these conditions their performance did not deteriorate appreciably.

IV. SUMMARY OF RESULTS

In this experimental task, where the average maximum free tapping rate was approximately 7 responses per sec., it was found, when subjects were tapping in response to a clearly visible series of stimuli or groups of stimuli, that:

(1) When the stimuli were exposed singly and separately the maximum rate at which responses could be made correctly was approximately 2 per sec.

(2) The response rate could be increased by grouping the stimuli. Groups of stimuli presented at the maximum rate for discrete stimuli could be dealt with adequately. When the stimuli were presented in sufficiently large and clear groups, the response rate approximated to the maximum free tapping rate, i.e. to the limit imposed by the maximum rate at which the limb could move.

(3) When the stimuli were presented as symbols requiring grouped responses, and the stimulus rate was higher than the maximum possible response rate, occasional breakdowns of response, or 'blocks' occurred. The rate of occurrence of these blocks varied considerably from subject to subject, but they appeared in general when the subject had to read off one set of stimuli while still responding to the previous set.

(4) Even when sets of stimulus symbols were exposed under conditions where subjects were not still occupied with responding to previous stimuli, and an extra stimulus symbol was interposed during the response time to the group, similar blocks occurred, i.e. the interpolated stimulus symbol sometimes disrupted the response to the first group of stimuli, or was itself missed or reproduced incorrectly. The amount of interference varied in proportion to the interval between the first set of stimuli and the interpolated stimulus, being greater when the interval was very short.

(5) These results also indicated that inhibition caused by the appearance of further stimuli during the time when the subject was still occupied with responding to the previous ones could act either on the succeeding stimuli and responses, if the response to the previous stimulus was well begun when the second one appeared, or could disrupt the

response to the first set of stimuli, when the second stimulus symbol appeared in the early stages of the first response.

(6) That the breakdowns which occurred at high rates represented 'blocks' in the sensory-motor system, precipitated when another stimulus occurred while the subject was still responding to the previous stimulus, rather than a simple limitation imposed by the maximum rate at which the limb could move, was indicated in an experiment where the stimulus rate was increased gradually, causing in the corresponding response rate an increase up to a certain point, which was followed by a decrease.

(7) The response rate for single and grouped stimuli in these artificial, experimental tasks was found to be similar to the rate attained by some practised and unpractised subjects in typing and telegraphy, when it was assumed that unpractised subjects would deal separately with the stimuli, while practised subjects would group them.

V. DISCUSSION

In a previous experiment it was found that discrete movements, made in response to discrete stimuli, were often delayed if the interval between stimuli was 0.5 sec. or less; and it has been postulated that a stimulus is followed by a 'psychological refractory period' lasting approximately 0.5 sec., in the course of which a response to a second stimulus may be delayed, unless the second stimulus appears after so short an interval that both may be apprehended and responded to as a unit.

In the present series of experiments rates of response much higher than 2 per sec. were obtained in many cases; but these results do not invalidate those found previously. First, the maximum rate of 2 responses per sec. was confirmed, when a series of discrete responses was presented at an accelerating rate, as errors in reproducing the stimuli increased rapidly when the rate was higher than 2 per sec.; and secondly, as was found previously, if the stimuli are presented at an interval short enough to allow them to be apprehended as a unit, they may be responded to as a unit, so that in the present experiments the presentation of stimuli in easily perceived groups allowed a response rate to be achieved which scarcely fell short of the limit imposed by the maximum rate at which the limb could move. This confirms the conclusions of Bryan & Harter (1899) regarding effective speed in a skilled task: 'The rate at which one makes practical headway depends partly on the rate of the mental and nervous processes involved; but far more upon how much is included in each process.'

In this paper, for the sake of clarity, a symbol requiring for a response a single movement has been defined as a stimulus, and the single movement itself as a response, but the terminology may be misleading when a comparison is made with the previous experiments. A stimulus in the present experiments, even if it is presented as a single dot, is not a unit requiring a separate response, but part of a more complex stimulus pattern which requires for response a complex series of movements. In many normal tasks, such as typing and telegraphy, these stimulus and response patterns are built up in the course of learning.

It could be argued, therefore, that the psychological refractory period found when subjects were dealing with discrete stimuli and responses is not merely masked when the response rate is increased by grouping, but that the more complex stimulus and response patterns built up by this method are, in their turn, equally subject to a similar kind of refractory period. This is indicated by the occurrence of breakdowns of response, or 'blocks', when a second stimulus pattern occurs during the response to a previous

stimulus pattern. Here, as in the previous experiment, it is overlap of stimulus and response which causes the disturbance, the difference being that the stimulus and response patterns are more complicated.

In a task such as receiving the morse code learning produces a situation in which overlap may occur, without disrupting the response. Trained morse operators learn to 'copy behind', and take down whole words, phrases, or even sentences while listening to the succeeding phrase or sentence. Here, however, it has been claimed (Bryan & Harter, 1899) that the operator in learning acquires the ability to apprehend and respond in larger and larger groups. It is not known if a kind of refractory period would manifest itself as a 'block' if the rate dictated by the transmitter outstripped the operator's level of learning; although this is a matter which could be investigated.

These experiments were for the most part planned by the late Dr K. J. W. Craik, and the techniques were evolved by him, although the interpretation of the results is that of the present writer. Acknowledgements are due to Prof. Sir Frederic Bartlett, Dr N. H. Mackworth and Dr W. E. Hick of the Psychological Laboratory, Cambridge, for helpful advice and discussion.

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(Manuscript received 11 April 1949)

SOME PROBLEMS OF TERMINOLOGY IN PSYCHOLOGICAL THEORY¹

By ROBERT H. THOULESS

The constructing of a body of scientific theory may be regarded as the devising of a language by means of which to talk about the results of experiments. Its purpose is not merely to talk about a limited range of experimental results, but to correlate as much as possible of past results and to suggest verifiable new experimental expectations for the future. These two conditions (of the necessity that our language should correlate a variety of experimental results and that it should lead to expectations which can be confirmed or falsified by later experiments) impose limitations on the choice of a language to embody a system of scientific theory. We may say, therefore, that a theoretical system is a good one or a bad one as its language succeeds or fails in satisfying these two conditions.

Even, however, if we choose a scientific language which is a good one by these criteria, we are left with a wide choice as to the terms we can select to make up our language. One aspect of this choice is the question as to whether we should use terms already current in ordinary speech, such as 'intelligence' or 'repression', redefining them in the way necessary for our purpose, or whether we should construct a purely technical vocabulary, the terms of which we both create and define. Examples of such purely technical terms are 'the general intellectual factor' and Freud's 'cathexis'. Both kinds of terms are used in current psychological theory. Which is the better choice?

There are many reasons why the first choice of the makers of modern psychological theory fell on terms already current in ordinary speech. They had the very proper wish to be as widely understood as possible, and they were perhaps not sufficiently worried by the fact that this appearance of general understanding must be largely illusory if the terms taken from ordinary speech were to be used in a way different from that of ordinary speech. Nor did they foresee that this choice doomed psychologists to spend much time in disputes about the meanings of words, and particularly in that very unprofitable form of such verbal disputes in which they are not distinguished from differences about facts.

Perhaps I may illustrate the kind of dispute that I have in mind by the case of a psychologist whom I once heard say that whereas Spearman taught that intelligence was the general intellectual factor, he himself held that intelligence was insight. If this were intended to be understood as merely a verbal proposition, it would obviously be a perfectly reasonable one but altogether trivial. The speaker might have been proposing the linguistic innovation of using the word 'intelligence' for 'insight' instead of for 'the general intellectual factor'. Why not? The only criticism one could offer would be that it would seem more convenient to use the word 'insight' if 'insight' is what is meant; there seems no reason for giving a second name to a concept already named. But this trivial linguistic proposition is certainly not what was intended by the speaker. He believed that he was stating a fact about the nature of intelligence and not making a proposal about the use

¹ Paper read at the Annual General Meeting of the British Psychological Society, 3 April 1949.

of the word 'intelligence': that intelligence *really* was insight and not the general intellectual factor. This proposition is meaningless; an unreal problem has been created by confusion between a verbal and a factual proposition.

A similar confusion seems to lie behind the tedious and meaningless discussions as what 'instinct' or what 'personality' really mean. There is, of course, a real question as to what are the meanings of such terms in current speech. This will certainly not be identical with the meaning we shall want them to have for the purpose of standing for concepts in theoretical psychology, although, if they are to be used for this purpose, it is obviously convenient that their technical use should be not too remote from their popular use. The same considerations apply to their etymological meaning. But there is no further question of what they 'really' mean as distinct from their current popular use and their etymology.

The assumption that there is such a 'real' meaning may seem an error too obvious to ensnare any careful thinker. So indeed it is when baldly stated. It is, however, the unrecognized pre-supposition behind many of the muddles which lead to fruitless discussions in psychology: discussions, for example, as to what is the essential nature of a 'social group' or the real meaning of 'regression', and so on.

The muddles which result from the search for the real meanings of psychological terms are particularly inclined to arise when we take words from popular speech for the purposes of a technical vocabulary. They may, however, also be found in discussions of terms which belong to a purely technical vocabulary. For example, at an international congress some time ago, we were told that an experimental psychologist had put forward the theory that 'consciousness is identical with the specific response of the organism'. Let us consider what this proposition could mean.

First, it might have meant that the propounder of the theory was using 'consciousness' with the same meaning as that adopted by other psychologists and that he thought that this meaning was identical with the generally accepted meaning of 'specific response of the organism'. This plainly will not do, because the two terms are not interchangeable in some of the statements made about consciousness without change of the statements' meaning. For example, it is not possible to replace 'consciousness' by 'specific response of the organism' in such a sentence as: 'Psychology must study behaviour and not indulge in speculations about the consciousness of its subjects'.

Alternatively he might be taken to mean the verbal proposition that instead of using 'consciousness' as other psychologists use the term, he was proposing to re-define it to mean 'specific response of the organism'. This would clearly be both trivial and inconvenient. Its inconvenience arises from the fact that 'consciousness' already has a different generally accepted meaning and 'specific response of the organism' is a conception already named. Plainly, if one wants to refer to this conception, one will be understood if one says 'specific response of the organism' and misunderstood if one says 'consciousness'.

I think it is clear that the propounder of the theory meant neither of these things. He meant that by some process either of psychological research or of pure thought, he had discovered that the real meaning of 'consciousness' is 'specific response of the organism'. Obviously neither their generally accepted meanings nor their etymological meanings are identical. This absurdity is an example of the fallacy of the search for a 'real meaning'.

Considered in another way, we may regard this sort of muddle as produced by the erroneous idea that first we have words with pre-determined meanings and our task is to find psychological facts to fit them. The truth is the opposite: we start with experimental

or observed facts and relationships between them. Our task is to devise a language by means of which to describe and co-ordinate these facts and relationships.

I have said earlier that the meaning of a word taken from popular speech (such as 'instinct', 'intelligence', 'play', 'work', etc.) will never be the same in a technical vocabulary as it is in ordinary speech. This follows necessarily from the difference between the techniques of use of words in ordinary speech and in scientific theory. In scientific theory, we require that words shall be precise in their indications, and we must have rules that make these indications clear. These rules are embodied in definitions and other explanations of usage. The words of popular speech, on the other hand, have no such precision of indication. This does not, of course, mean that there is indefiniteness in what is indicated by any particular example of the use of a word in ordinary speech; the indefiniteness lies in the range of meanings covered by the same word in different examples of its use. Experience of verbal intercourse teaches us how to use a word in ordinary speech, but its range of meanings (unlike the restricted range of a term used in a technical vocabulary) cannot be expressed by any definite rule like the technical definition. The words of ordinary speech also serve other purposes than that of indication of fact; they have affective meanings which convey emotional attitudes in a manner that would be altogether inappropriate for the purposes of a scientific terminology.

From time to time, the writer of a psychological text-book notices this indefiniteness of indication in some particular term imported into psychology from ordinary speech, for example, in the word 'instinct'. From this he deduces its unsuitability as a term in a technical vocabulary and not infrequently (by a typical verbal-factual confusion of thought) he goes on to infer that this is an argument against the idea which the word 'instinct' is used to convey (that human patterns of behaviour are to a great extent innately determined). He may fail to notice that the word 'habit', which he adopts as an alternative category for human behaviour patterns, has also a bewildering indefiniteness of indication in ordinary speech. Still less is he inclined to realize that this is a general characteristic of everyday human speech and not a peculiar property of the term he has chosen for condemnation.

Such characteristics as indefiniteness of indication and affective implications are not, of course, imperfections of ordinary speech; they would be imperfections in a scientific language. Obviously popular speech serves very well the practical ends for which it is used, much better than would a carefully defined and affectively neutral scientific terminology. But when we are making a language for expressing a scientific theory, our needs are different. We can only adapt popular terminology by re-defining it for our purpose and by indicating that we are not implying any affective meanings that its terms may have in ordinary speech.

It is the fact that there is a change in manner of use that makes largely illusory the apparent gain in general intelligibility of scientific theory expressed in a vocabulary taken from popular speech as compared with that using a purely technical vocabulary. If a scientific theory embodies, as it must, concepts which do not exist in popular thinking, then it will not be popularly understood whether it uses for these concepts popular terms or technical ones. It does not matter whether the psychologist says: 'intelligence reaches a maximum at 15 years of age' or 'the general intellectual factor reaches a maximum at 15 years of age'. In either case he will be misunderstood by the layman but in a different way. From the second statement the man in the street is likely to be able to extract no

meaning at all; from the first he will probably extract a meaning which he rightly thinks makes the assertion false (i.e. the meaning that the level of intellectual achievement is higher at 15 than at any later age). The illusion of understanding will, of course, be dispelled when the psychologist explains that the meaning he attaches to the word 'intelligence' is a different one from that supposed by his hearer. At best, he will then have reached a point no different from that he would have arrived at if an unknown term had been used in the first place. At worst, he will have started an unprofitable dispute of the type already referred to as to whether this is what the word 'intelligence' really means.

In the same way, we may tell a general audience that Freud taught that every psychoneurosis has its origin in the repression of a sexual wish. The words 'repression', 'sexual' and 'wish' will all be familiar to our audience, so the illusion of intelligibility will be complete until we go on to explain that the word 'repression' was not used by Freud to mean what they think he meant, nor was 'sexual', nor was 'wish'. Was there then any real gain in general intelligibility resulting from the fact that these terms were drawn from popular speech?

The word 'repression' used in English translations of Freud's works is a particularly good example of the dangers to which one is exposed by taking words from ordinary speech and using them for the purposes of a technical vocabulary. Everyone knows what 'repression' means: stopping people from doing what they want to do. The usual example given by popular writers on the subject is stopping children from hammering nails into the grand piano. It happens that it is used in Freudian psychology in an altogether different sense for a concept which does not exist in ordinary thought. Freud himself points out that it was a novel conception and that nothing like it had ever before been recognized in mental life. This is how he described it: 'The ego drew back, as it were, after the first shock of its conflict with the objectionable impulse; it debarred the impulse from access to consciousness and to direct motor discharge, but at the same time the impulse retained its full charge of energy' (1). Since this concept does not exist in popular thinking it has no name in popular language. For the same reason, the use of the term 'repression' has the effect of leading the ordinary hearer to understand what he ordinarily means by the term: preventing people from doing what they want to do. So from the proposition that repression leads to neurosis they extract the meaning that children become neurotic because their parents do not let them do what they like. Psychological critics of Freud have not been altogether innocent of the fault of contributing to the morass of misunderstanding that underlies this confusion, since they have sometimes based criticisms of the concept of repression on statements as to whether or not it is harmful to prevent children from doing what they want to do. It would obviously have been better if this confusion had been avoided by the adoption of a novel term for Freud's novel concept.

Some psychologists may feel unwilling to accept a course which seems to threaten to make psychology unintelligible to the general public. Have we not also a duty of popular exposition, and if popular exposition is a translation of the technical language of the psychologist into the language of common speech, why not start with popular speech and get rid of the necessity for translating? I agree that we have a duty of popular exposition but not that popular exposition is translation into common speech. It is an activity more like paraphrase than translation: a change from one way of using language to another. It is a kind of paraphrase in which one changes what is expressed on to a different level of abstractness: in which psychological concepts must be replaced by explanations and

examples because these concepts have no existence and therefore no names in the language in which we are trying to express them. The need for this change of language exists no less if we start with popular terms in our technical language, only it is then more difficult because the need for the change may not be apparent to our audience. They may indeed suspect us of introducing subtleties and making artificial difficulties since they were aware of no failure to understand what we were saying until we started to explain it. Thus it might be easier to explain to a popular audience what Freud meant by 'cathexis' than what he meant by 'repression', since the explanation would not come into conflict with a previous conviction of complete understanding.

Obviously we do not get over all the linguistic difficulties of psychological theorizing by the creation of a special technical vocabulary. We have already discussed an example of a verbal problem treated as a factual one when the terms used belonged to a purely technical vocabulary. Lack of precise definition may also give technical terms the characteristic of vagueness of indication which makes the terms of ordinary speech unsuitable for theoretical purposes. Even affective meanings may, in the course of controversy, attach themselves to purely technical terms. When such terms are used with affective meanings, vaguely defined, and made the subject of verbal-factual confusion, the advantages of a special technical vocabulary have been lost, and nothing except unintelligibility to the general reader has been gained.

Such troubles are, however, merely the result of trying to use a purely technical vocabulary without observing the rules for its effective use; there is another difficulty arising directly from the character of a technical language. This is the confusion which results from different research workers creating a number of different technical vocabularies all covering much the same ground. It may be unavoidable that the student of psychology has to learn more than one psychological language and that part of his training is learning to translate from one language to another. But he cannot be expected to learn an indefinitely large number. The multiplication of technical vocabularies is the road to Babel; its end is mutual unintelligibility. I am inclined to think that we have already travelled some distance along that road and are travelling along it with ever increasing velocity.

Perhaps it is unnecessary to illustrate a point which forces itself on the attention of everyone who reads the technical literature of psychology or who attends a psychological congress. I should, however, like to point out one outstanding example of this confusion: the names given to the personality traits obtained either observationally or by multiple factor analysis. The wide variety of terminology used for apparently identical personality factors suggests that many workers in this field introduce new names with little or no reference to the naming that has already been done by other workers in the same field.

The remedy is, I suggest, better scholarship and more modesty on the part of psychological investigators; better scholarship so that they may know what concepts have already been named by other workers, and more modesty to save them from the temptation to make a terminological innovation merely for the sake of being supposed by the ill-informed to have made an advance in psychological theory. Merely to give a new name to an already used theoretical concept is not, of course, a change of theory; a change of theory is made when a new concept is defined. Nor is every change of theory a theoretical advance. When a new conception is formulated which clarifies the relationships between known facts and points forward to new investigations, then there is a fruitful advance in

psychological theory. This, however, is a very different thing from the activity often mistaken for it; the invention of a new technical term.

The furthest point one can reach in a special technical terminology is that in which words from popular speech and those of a special technical vocabulary are replaced by mathematical symbols. Psychology may one day reach that stage. Attempts in that direction have already been made in some fields of psychology, as, for example, Lewin's attempt at a topological and geometrical formulation of the problems of goal-seeking behaviour(2). It is to be noted, however, that the special conditions which make this development possible in physics are not yet present in psychology, where exact quantitative expectations can rarely be formulated and few problems can be stated in a way eliminating non-quantitative elements. So, much as I admire Lewin's attempt, I am inclined to think that it was premature.

Although I have been arguing the advantages of a special technical vocabulary in psychological theory over the use of terms drawn from popular speech, I do not wish to suggest that we should try to get rid of all popular terms from psychology as an immediate goal. I think we must take psychological terminology as we find it, using popular terms where these are generally accepted in psychology, while trying to avoid the dangers of verbal confusions to which they invite us. At the same time I think we should be sympathetic to the attempts now being made to replace these terms by elements of a purely technical vocabulary, and that we should also aim at standardization of our technical vocabulary so saving theoretical psychology from the confusion resulting from a multitude of conflicting vocabularies.

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PUBLICATIONS RECENTLY RECEIVED

Human Behavior and the Principle of Least Effort. By GEORGE KINGSLEY ZIPF. Cambridge, Mass.: Addison-Wesley Press, Inc., 1949. Pp. xi+573. \$6.50 net.

Dr Zipf's fundamental idea is that in all his activities man works in accordance with the demands of a principle of least effort. The effect of such a principle is studied first in relation to problems connected with the use of language and afterwards in connexion with various sociological problems. The effect of this principle on language is stated to be a hyperbolic relationship between absolute frequency and frequency rank of words. The existence of this relationship is illustrated by graphs based on word counts from various writings, and there is an interesting suggestion of significant departure from this relationship in the vocabularies of schizophrenics. The author's argument as to relationship between distances separating successive occurrences of the same word and its frequency seems to have less force, since he does not make the proper comparison between observed distances and those to be expected on the hypothesis of a random distribution.

In the latter part of the book, Dr Zipf discusses the statistical sociological laws established by such writers as Hornell Hart, and also contributes a number of new statistical laws of his own by a use of the same principle of least effort as that used in the part of the book dealing with language. In examining the relation between absolute size and size rank of centres of population, he makes some interesting suggestions of symptoms of social instability, with important implications for practical problems of social psychology.

Although the mathematical part is somewhat heavy going, the book is lightened by numerous side-discussions on sex, morals, fashions, etc., in which Dr Zipf seems to allow himself a holiday from the rigour of scientific method which governs his formulae and graphs. Indeed his prejudices (e.g. against the conventional morality which he pillories under the affectively coloured phrase 'Pied Piper morality') seem to have much the same freedom from rigidly rational control as the prejudices of the rest of us. There is perhaps some danger that his less firmly grounded opinions may seem to derive an unjustified scientific authority from occurring in such a very scientific setting.

There is no doubt that this is an important book. There are parts of it with which many psychologists will disagree more or less. But in its statistical study of language and population problems it makes a new advance in psychology which we cannot afford to ignore.

R. H. THOULESS

Personality Projection in the Drawing of the Human Figure. By KAREN MACHOVER. Springfield, Illinois: Charles C. Thomas (Oxford: Blackwell Scientific Publications, Ltd.). 1949. Pp. ix+181. 17s. 6d. net.

This book describes a systematic approach to the use of drawings of the human figure as a projection test. The individual is asked to make drawings of the male and female figure; and it is held that he projects his own salient personality characteristics into his drawing, demonstrating these characteristics in the style of drawing and the emphasis or omission of certain features of the figures. These features should not, however, be considered singly and in isolation in diagnosing the individual's personality characteristics; but the pattern of related features must be studied as a whole, as is a Rorschach 'profile'. The author had previously found that children's drawings, used in the Goodenough test for determining developmental level, often indicated other personality characteristics. She then made studies of thousands of adult drawings, many of which (no exact frequencies are anywhere given) were obtained from clinical cases; and based her interpretation of the drawings largely upon case histories and clinical diagnoses. She concluded that the relative maturity or infantility of the adult may appear in his drawings also; and in addition his adjustment to his environment (shown particularly by the treatment of the hands); his conflicts and anxieties (shown, for instance, by erasures and distortions); and neurotic and psychotic characteristics (the latter indicated, for instance, by confusion between the profile and full face).

The book contains a full description of the possible interpretations, in terms of personality characteristics, of various ways of drawing the head, features, trunk, limbs, clothes, etc. Eight illustrative pairs of drawings (male and female) are shown, and case histories given of the individuals who drew them. The author states that the details of interpretation have not yet been fully worked out. And it is of course impossible in

a review even to outline the interpretations which have already been established. But, as the author herself states, she has started from a particular theoretical position, mainly psycho-analytic, with regard to the significance of many of the features of the drawings, for instance, as to their phallic symbolism. Working then largely from cases upon the nature of whose personalities and personality disorders she has already decided, the author proceeds to conclude that particular features of the drawings demonstrate personality characteristics the existence of which she has already postulated. In this way she has, it is true, reached a fair agreement between drawing interpretation and clinical diagnosis. But it seems likely that it would be equally possible to start with some other theory as to the nature of the personality, and demonstrate with equal clarity its projection into the drawings. Nor is there any indication how far the drawing is actually carried out in accordance with schematic ideas originating within the individual; or how far in an attempt, varying with the individual's sophistication and skill, to make a representational drawing. Again, a determining effect may be exerted by social customs as to how the human figure should be drawn—differing surely in different cultural groups.

Considerations such as these must be taken into account in making accurate interpretations. Thus, however useful this method may be to the individual clinician in indicating particular characteristics of his patients, its use as a general projection method for personality analysis is fraught with difficulty.

M.D.V.

Man for Himself. An Enquiry into the Psychology of Ethics. By ERICH FROMM. London: Routledge and Kegan Paul Ltd. 1949. Pp. xiv+254. 12s. 6d. net.

Ethics for Unbelievers. By AMBER BLANCO WHITE. London: Routledge and Kegan Paul Ltd. 1949. Pp. vi+222. 12s. 6d. net.

Both Mrs Blanco White and Dr Fromm are concerned, in these books, with the connexions between the science of psychology and ethical belief and practice. Both take Freud's analysis of conscience as a starting point, and both are agreed that traditional moral conceptions should be freed from the harmful influence of the authoritarian conscience.

Mrs Blanco White, however, is more satisfied than is Dr Fromm that the Freudian account of conscience is complete and adequate, and, unlike him, she sets out to base 'a scientific system of morality' upon it. In her account of the development of conscience she makes the transition from fear to hatred of the loved parent, and from hatred of the loved parent to feelings of guilt, by equating the child's feeling that it is dangerous to hate the parent with 'this embryonic feeling, this sense of guilt or state of tension' (p. 401). She might have avoided this verbalism by reflecting that, in a moral context, *feeling* guilty implies at least the belief that it is possible to *be* guilty, and thus cannot be explained in terms that omit reference to right and wrong. Mrs Blanco White proceeds to sketch out a moral idea based on the 'scientific' conception of 'mental health'. She thus considers she is developing a 'scientific ethics' when she is in fact describing the moral ideals of a group of psychiatrists and other 'progressive' persons. Her use of such words as 'morbidity' and 'perversion' betrays a set of standards she does nothing to criticize, while her penchant for 'mental hygiene' makes the standards she recommends rather jejune ones, such as might belong to

Decent godless people:
Their only monument the asphalt road
And a thousand lost golf balls.

Her comment on Aristotle's great-souled man is: 'what a man to have about the house' (p. 120).

Dr Fromm's book is intended for a rather more sophisticated audience. The author shows a sensitivity to literary and philosophical influences, and his psychiatric experience is supplemented by valuable references to Spinoza and Nietzsche. He observes that, over and above its scientific content, Freud's account of moral experience comprises two inconsistent philosophical elements: first and mainly, an assumption of ethical relativity; and secondly, a belief in natural law as is evinced by his faith that truth is good in itself and by his conviction that genital sexuality is the morally right sort of sexual behaviour for grown-up people. Dr Fromm considers that a moral standard or ideal is required to throw into relief the badness of neurosis, and he estimates principles of behaviour by their conduciveness 'to the unfolding of man's powers'. He thus presents a morality of productiveness and self-realization, illustrated by vivid descriptions of contrasting types of character. He has produced an interesting and fruitful though somewhat impressionistic contribution to this difficult borderline inquiry. He refers generously to Dr Flugel's *Man, Morals and Society*, but does not discuss it, as he had completed his own book before Dr Flugel's appeared.

H. B. ACTON

Hormones and Behavior. By FRANK A. BEACH. New York: Hoeber (London: Hamish Hamilton). 1948. Pp. xiv + 368. 32s. 6d. net.

An extremely valuable survey of the literature (with a very full bibliography), this book summarizes the factual findings of experiment and observation on the relation between endocrine secretion and behaviour. Most of the work refers to animal psychology, although references to human behaviour are included when the findings appear to be reliable. As a psychologist himself (though one who has worked in experimental endocrinology), the author has arranged the material under headings referring to categories of behaviour, such as 'Courtship and Mating', 'Migration', 'Conditioning and Other Types of Learning', 'Generalized Aggression, Social Dominance or Submission and Territory Defense'. The plan allows of convenient consultation on the questions most likely to concern the psychologist. The summaries of experimental findings are lucid and are grouped coherently enough to make continuous reading not impossible, though from its nature the book is more suited to be a work of reference.

However, the final section examines various general hypotheses intended to explain hormonal influences on behaviour, and offers a critical evaluation of them in the light of the available evidence. This section reinforces the impression given by the book as a whole of the extreme complexity of the relation between endocrine secretion and behaviour. Even the *activation* of behaviour patterns by hormonal influences is shown to be far from a simple or purely physiological matter, and it is abundantly clear that any 'explanation' of behaviour must continue to be made in psychological terms referring to inborn patterns of total response and the effects of individual experience.

It is to be hoped that future revisions of the book will bring it up to date from time to time, and present new findings and interpretations under the same general scheme with its great advantages for psychological workers.

Modern Practice in Psychological Medicine 1949. Edited by J. R. REES. London: Butterworth and Co. (Publishers) Ltd. 1949. Pp. xii + 475. 50s. net.

This is a collective volume, of a kind nowadays much in vogue, which sets out to survey the field of psychological medicine at an expert but non-specialist level. In so far as it deals with what might be called the traditional subject-matter of psychiatry it fulfils its purpose admirably. The manifestations of mental disturbance of major concern to the general practitioner are excellently described, and most competent accounts are given of modern methods of examination and treatment. There is throughout a healthy emphasis upon straightforward clinical description, and a refreshing absence of jargon. These are most satisfactory features upon which both the Editor and his distinguished contributors deserve the warmest commendation.

It is unfortunate that the chapters which touch upon general and social psychology are distinctly less satisfactory. Indeed, the whole background of normal psychology is shrouded in the mists of academic confusion. For example, Jung's theory of types is expounded *in extenso* by two different authors, but the reader is given little or no guidance in evaluating this somewhat esoteric psychological system. Again, whereas most of the authors who touch upon the problem of instinct appear to follow Freud, the writer of the chapter entitled 'Ourselves—the normal individual' would seem to be a follower of McDougall. Such inconsistency is scarcely calculated to reassure the reader unversed in current psychological controversy. Where some of the authors on occasion stray into the social field, moreover, their remarks tend to be as ingenuous as those of any undergraduate who has recently made his discovery of Freud or Marx. If psychiatrists wish their recently discovered social conscience to be taken seriously, they would do well to talk rather less and think rather more about the psychological problems of society. We might then be spared such *naïvetés* as a distinguished medical personage inflicts upon us in the introductory chapter to this volume.

There can be no doubt that this symposium will prove of interest and value to the general practitioner, the doctor reading for his D.P.M., and the general psychologist who aspires to keep abreast of modern work in psychological medicine. Although some may doubt, on general grounds, the value of symposia of this type in medical education, no one will wish to question the authority, competence and skill of the twenty-nine contributors. Dr Rees is to be warmly congratulated upon yet another success in the field of personnel selection.

There is a useful appendix upon nomenclature in psychiatric classification, and an adequate index. The number of references given is mercifully small.

O.L.Z.

Psychological Medicine. A short introduction to Psychiatry. By D. CURRAN and E. GUTTMANN. 3rd ed. Edinburgh: E. and S. Livingstone, Ltd. 1949. Pp. vi + 252. 12s. 6d.

An admirable terse style permits of more interesting detail than one can normally hope for in such a brief introduction to psychiatry. This new edition reflects still more than its predecessor the trend away from discrete classification and towards what the student must sometimes despairingly regard as quaquaversality. Thus, for example, the hysterical prolongation and elaboration of symptoms occurring in other illnesses are given greater emphasis. It reflects, too, the interest in changes from the pre-psychotic to the psychotic personality, special attention being given to the assessment of the former by means of the work history.

There are unfortunately a number of indications that the help which can be rendered by psychologists is but grudgingly and, indeed, incompletely recognized. Thus we are told that in vocational guidance and in vocational selection it is necessary to have a job analysis and an assessment of the individual's intelligence, aptitudes and handicaps, 'if necessary invoking for this purpose the aid of a non-medical psychologist' [reviewer's italics]. Again, psychologists reading a subsection headed 'Rough Intelligence Tests', together with the material which follows, may prefer to substitute 'inaccurate' or 'unilluminating'. Nevertheless, this new edition should be welcomed by many, including those wishing to become clinical psychologists. G.A.F.

Oedipus: Myth and Complex. A Review of Psychoanalytic Theory. By PATRICK MULLAHY.

With an Introduction by ERICH FROMM. New York: Hermitage Press Inc. 1948.

Pp. 538. Price \$5.

The Oedipus myth and the Oedipus complex are not the only examples of their kind, however 'nuclear' their position may be, nor do they represent the only points at which psycho-analytic thought has made illuminating contact with mythology. There is thus a certain contradiction between the main and the sub-title of this book, many pages of which can be read without finding more than the most indirect reference to the Oedipus situation, however broadly we may interpret the latter. Nevertheless Mr Mullahy's work does go a good way towards vindicating the 'nuclearity' of this situation, and apart from this will be found very useful in other directions. It aims at providing an objective account of the theories of Freud, together with those of Adler, Jung, Rank, Horney, Fromm and Sullivan. In view of the rather bewildering 'proliferation' of post-analytic schools, the opportunity thus afforded of comparing the main doctrines of the above-mentioned writers within the compass of a single book (albeit not a small one) should be welcome to many readers. Especially useful at the present moment to students in this country will be the summaries provided of the later views of the four last-named authorities, which are as yet not easily accessible on this side of the Atlantic, and in the case of Sullivan are not in their entirety available in printed form at all, but were obtained by Mullahy from lectures and conversations shortly before Sullivan's recent sudden and lamented death. Some of these views are of much interest, though not easy of appraisal. In this latter task the reader does not receive much assistance from the author, whose aim is expository rather than critical. There are, it is true, a few detailed criticisms here and there in the course of the exposition, and in a final chapter some rather general reflexions on the relative value of the respective contributions, but on the whole the student is left to draw his own conclusions. This was perhaps inevitable in view of the fact that the task of exposition is itself a very considerable one, one moreover which the author has undertaken with a commendable desire to be impartial. Nevertheless, the more difficult task of synthesis has still to be accomplished. As the reader proceeds with the book certain fundamental questions will inevitably force themselves on his attention, in particular: how far are the different views expounded, (a) complementary, (b) contradictory, (c) no more than restatements in a different terminology. Whoever eventually attempts to answer these important questions will find this book extremely useful as a source of reference, but of little direct help in the task itself. As a source book it would, moreover, have been even more useful if the exposition had extended to the works of certain other authors. Among these Klein, Alexander and Reich suggest themselves as eminently worthy of inclusion—perhaps also Reik, who in his latest books regards himself as an exponent of 'neo-analysis'.

The volume concludes with an English rendering of Sophocles' Oedipus trilogy, *Oedipus Rex*, *Oedipus at Colonus* and *Antigone*, the reader being invited to study for himself therein the various interpretations of the Oedipus myth that have been put forward by some of the writers whose work is considered: the well-known sexual interpretation of Freud, Rank's somewhat difficult and complicated view that it expresses a revolt against the father and a longing for immortality, and Fromm's finding that it symbolizes a conflict between

patriarchal (authoritarian) and matriarchal (democratic) culture. Here again we are faced with the question how far these views are complementary (in the sense of psychological and historical 'over-determination' of the kind that Rank himself, for instance, has so clearly expounded in his earlier treatment of the 'incest motif' and certain other myths), or antagonistic—and in the latter case which, if any, is the correct interpretation. Few readers, the present reviewer suspects, will be able to arrive at a satisfactory conclusion on the basis of the evidence given in the present book, and this in turn raises the question whether the 169 pages devoted to Sophocles (whose works are after all to be found in any good public library) could not have been more profitably used either for a fuller critical review or for the exposition of the views of other writers, such as those mentioned above. Nevertheless, within its limits, Mr Mullahy's work is undoubtedly of value and should find a ready welcome in many quarters.

J. C. FLUGEL

Psychologist Unretired. The Life Pattern of Lillien J. Martin. By MIRIAM ALLEN DEFORD. Stanford University Press (London: Geoffrey Cumberlege). 1949. Pp. ix+127. 16s. net.

Occasionally we hear of people who seem to be endowed with a much greater degree of vital energy, whatever that may be, than the majority of the population. Such a one was Lillien J. Martin. Up to the age of sixty-five when she retired from her professorship of Psychology at Leland Stanford Junior University her story is that of many other academic people. Her university education at Vassar was achieved by means of a scholarship and it began later than usual as she had to teach to earn enough money to augment her scholarship.

On getting her degree in science she taught at a Girls' High School. After a few years she decided to study psychology and went to Göttingen to work under Prof. G. E. Müller. She returned after four years to America and became Assistant Professor and eventually Professor of Psychology, and, with the passing of years, reached retiring age.

She now embarked on another career. She interested herself in the struggle for Woman Suffrage, worked at a Mental Hygiene Clinic in San Francisco in the mornings, and had a private practice in the afternoons. Realizing from the attitude of society to the elderly that the feeling of being useless was bad, not only for the elderly but also for the young people who came in contact with them, she started what became known as the Old-Age Counselling Centre.

The work here involved what she called salvaging the old. She organized study groups for men and women of over sixty-five and by psychological advice to individuals and discussions in groups she made a large number of those who consulted her realize that 'old age has positive values of its own'. For five years she organized a farm for men whose ages ranged from sixty-three to seventy-two, all considered unemployable, and this venture is a story in itself. In between these activities she travelled extensively in India, China, Japan, and South America, and at the age of eighty she went to Russia by herself and 'wore out the young woman interpreter by her untiring energy and efficiency in everything she did'. She also found time to produce a number of psychological researches and a *Handbook* for the aged. She died at the age of ninety-one. She believed that it was the duty of society 'to evolve adults fit for children to live with'.

Since, according to the population experts, we now have, and are likely to continue to have, an increasing number of old people it is important that they should, for their own sake and for the community, be a help and not a hindrance. Prof. Martin's contribution to the psychological study of the problem of the elderly is of outstanding value, but her biography is interesting not only for what she did but for what she was. Such lives invite questions. What is this difference in vitality?

M.S.

Pediatrics and the Emotional Needs of the Child. Ed. by HELEN WITMER. New York: The Commonwealth Fund (London: Geoffrey Cumberlege). 1948. Pp. x+180. 8s. 6d. net.

This is a skilfully edited report of a conference sponsored by the Commonwealth Fund, attended by forty-four pediatricians, child psychiatrists, and psychiatric social workers. The conference was held in Pennsylvania in 1947.

Some of us in England have tried, in the past two decades, to bring about the relationship between pediatrics and child psychiatry which would make exactly this sort of conference possible and profitable.

In this country no such state of affairs has yet developed. Child Guidance has begun to be used by pediatricians as a department to which a certain type of case can be sent, but there is hardly any interchange between these two groups of people, each of which is concerned with half of the child. It is with this in mind that one reads the report of this conference and warmly congratulates the Commonwealth Fund for once again sponsoring something that has given rich results.

The atmosphere of the conference can be clearly felt by anyone reading this report, and one can see the initial difficulties and watch them gradually disappearing as the medical men and women with various types of training discover that they are all concerned with the same things—the whole child, the child's growth, the child's health, and the environment in which the child lives. One can see that as the conference proceeds some of the pediatricians see that they lack instruction in a science, dynamic psychology, and that this science to be taught well must be treated as something comparable in size and importance to physiology. The discussion therefore takes a turn towards the problems of the training of medical students and nurses and pediatric specialists. Many problems are found to be not immediately capable of solution, and this is not to be wondered at.

The whole report is extremely readable and should be distributed to pediatricians in this country.

D. W. WINNICOTT

Modern Child Psychology. By A. H. BOWLEY. Hutchinson's University Library, 1949. Pp. 159. 7s. 6d.

This book is variously stated to be technical and non-technical, for the general reader and for students and teachers. Not even Dr Bowley could satisfy all these requirements. She probably satisfies none when, on page 11, she refers to 'g', 'f' and 'w' without any further explanation.

Section I, which reviews research in child psychology, rather surprisingly allows thirteen pages to the observational method, five to the experimental and, excluding some test material, two and a half to the psychometric. Consequently it reads rather like a student's examination answer.

The section on the normal development of the child contains a passing comment on Köhler's work which will be followed by few of the readers and a passage on Interests which would have been less open to misinterpretation had some remarks been made about culture pattern differences. There is also an item from a reasoning test which, from the nature of the remaining items, leads one to expect that the answer is intended to be either 'yes' or 'no', although the item reads 'Manx cats have short tails. John's cat has a short tail. Is it a Manx cat?'

For the general reader the most profitable pages will perhaps be those which denounce the Liberty Hall educational methods, those which describe the Leicester Schools Psychological Service and those which provide norms of development. However, although few psychologists could be better fitted to write a book of this nature, the reviewer was left with his conviction that the general reader should be abolished.

G. A. F.

Mental Health in Modern Society. By THOMAS A. C. RENNIE and LUTHER E. WOODWARD. New York: The Commonwealth Fund. (London: Geoffrey Cumberlege, Oxford University Press.) 1948. Pp. xviii + 428. 22s. net.

It is a phantasy of reviewers that they repress hyperbole, but it is difficult not to be enthusiastic about this book. It is a mine of information for those who desire to further the principles of team work in the field of mental health. The first part summarizes the experience gained in the mental health services in the Armed Forces during World War II, and it describes methods of resettlement of ex-Service men in the U.S.A. Part two describes post-war problems in mental health, and makes suggestions for the effective organization of mental health services. In the third part (the most valuable contribution to the team approach) the functions of the physician, the social worker, psychologist, pastor and industrialist are described. The chapters on family living, interviewing and counselling and the final summary are particularly well done.

The chapter dealing with the contributions of the psychologist is especially valuable. There has been a tendency in some quarters for the development of regrettable antagonisms between the medical and non-medical psychologist. This chapter should do away with such hostilities, conscious or unconscious. It describes the functions of the clinical psychologist and deals with the development of structural psychology, functional psychology, behaviourism, dynamic psychology and Gestalt psychology. It approves of the

suggestion of the Joint Committee of the American Psychiatric Association and the American Psychological Association that a form of certificate should be available for a clinical psychologist, and that a joint training of these and of psychiatrists should take place in the same teaching Hospital. It stresses careful selection for this type of training, and recommends that plans should be worked out between the two disciplines for exchange of material for publication in scientific journals, for courses, lectureships, professorships, etc., to assure future co-operation. It mentions the need to define training, limits and therapeutic responsibilities and activities.

The authors suggest that the position of the clinical psychologist is unassailable in research, in psychological testing, and in all forms of selective procedures. The latter aspect is open to some doubt. Validation experiments conducted since the last war have proved that the correlation with success after a selection board is higher when an experienced psychiatrist adds his opinion to that of the team, and that the value of team assessment rises with the increase of exchange of information with the psychiatrist.

A. TORRIE

Democracy and the Quaker Method. By F. E. POLLARD, B. E. POLLARD and R. S. W.

POLLARD. London: Bannisdale Press. 1949. Pp. 160. 8s. 6d. net.

This brief and readable account of Quaker practice in conducting the business of meetings advocates the extension of the practice to other committees and conferences and shows that several lines of recent psychological work, including group therapy, are in accord with a tradition going back three centuries in the Society of Friends. Reference is also made to the successful abandonment of voting and majority decisions in a number of recent committees, including the European Coal Organization and the Lilienthal committee on atomic energy, and among the Russian members of the U.N.R.R.A. mission in Jugoslavia. Interesting, though inevitably meagre, psychological material is given in accounts of serious controversies within the Society which have been handled in the past by the methods of Friends' Meetings, and the authors suggest that much closer study of the psychological processes leading to unvoted agreement would be well repaid. They themselves believe that the principles of paranormal psychology would be needed to explain some of the facts reported from Quaker experience. The religious basis of the unity in a Friends' Meeting is not overlooked, but the book provides a useful reminder of the relevance of the Quaker tradition to the current concern of many psychologists with group functioning. A full and detached study of this tradition might eventually help to define the limits of usefulness of group work and show more clearly what range of individual creative effort can be effectively aided by a committee.

